

# PRE-PHYSICAL THERAPY

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The aim of the professional phase of the Doctor of Physical Therapy Program is to produce clinicians, trained for general practice in a dynamic health care environment, who provide best care, respectful of patient/client values, grounded in evidence-based practice and clinical reasoning, and contribute to the profession and their community.

The Entry-level Doctor of Physical Therapy Program is fully accredited by the Higher Learning Commission/North Central Association, and the Commission on Accreditation of Physical Therapy Education.

## Curriculum

The Carroll University Entry-level Physical Therapy Program consists of a six-year course of study, divided into pre-professional and professional phases.

During the pre-professional phase (freshman, sophomore and junior years), students complete their undergraduate course work while fulfilling the requirements to enter the professional phase. Pre-physical therapy education at Carroll University is grounded in the humanities and the natural, behavioral and social sciences. For pre-Physical Therapy students pursuing an undergraduate degree at Carroll University, a Bachelor of Science degree in Psychology, Exercise Science, or Biology is typically used to complete the Physical Therapy Program in six years.

The professional phase begins the senior year, lasts eight semesters, and is subdivided into two phases, Phase I and Phase II. During Phase I of the professional program, fall and spring terms of senior year, course work in physical therapy begins at the 400 level. The 400 level courses present the basic, behavioral, professional, and applied science foundations that are subsequently applied in the 500 and 600 level courses taken during Phase II of the professional program. Bachelor's degrees are awarded at the conclusion of the senior year to those individuals satisfying all Carroll undergraduate requirements.

Immediately following Commencement, students begin the graduate segment of Phase II course work within the professional program. Here the 500 and 600 level courses in physical therapy are offered in a developmental sequence that integrates knowledge throughout the student's professional education. Upon successful completion of Phase I and II of the professional curriculum, an Entry-level Doctor of Physical Therapy degree is awarded. Graduates participate in the University's Commencement ceremony in May of year six.

### **Admission**

See the Admission section of this catalog.

### **Academic Progression**

The Academic Progression standards for the Pre-Physical Therapy Program are presented in the Academic Program and Policies section of this catalog.

### **Pre-Physical Therapy Majors (96 credits)**

**Psychology Major (Bachelor of Science)**

**Biology Major (Bachelor of Science)**

**Exercise Science Major (Bachelor of Science)**

**Optional Minors:** Biology, Business, Chemistry, Psychology, Public Health, Sociology

### **Professional Program**

Senior year for Direct Admission and Transfer Students (32 credits)

#### **Phase I**

##### **Fall Semester 16 credits**

PTH 400, Foundations of Professional Practice (4 credits)

PTH 404, Biomechanics I (4 credits)

PTH 406, Applied Exercise Physiology I (4 credits)

PTH 407, Human Learning and Behavior (4 credits)

##### **Spring Semester 16 credits**

PTH 401, Clinical Research I (4 credits)

PTH 405, Neuroscience (4 credits)

PTH 414, Biomechanics II (4 credits)

PTH 416, Applied Exercise Physiology II (4 credits)

#### **Summary of Credits**

- Pre-Professional Phase 96 credits
- Professional Phase I 32 credits

Pre-Physical Therapy Emphasis with undergraduate major 128 credits

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### 400. Foundations of Professional Practice

4 credits

Fundamental concepts related to professionalism and the roles and responsibilities of the physical therapist are introduced. Emphasis is placed on professional practice and practice management expectations. The health care delivery system, including cost, quality, and access, and the policies and legislation which drive these forces, is introduced. (*Fa*) Prerequisite: Good standing in the Entry-level Physical Therapy Program.

### 401. Clinical Research I

4 credits

The concepts of critical inquiry, reflective thinking, and evidence based practice in physical therapy are introduced. The components and processes of qualitative and quantitative research in physical therapy are emphasized. Students access and analyze a variety of health care and physical therapy literature. (*Sp*) Prerequisites: Good standing in the Entry-Level Physical Therapy Program, CSC 107 and MAT 112 or PSY 205.

### 404. Biomechanics I

4 credits

Biomechanics I is the first of a two-course sequence investigating the anatomical and mechanical bases of normal human movement. Musculoskeletal structure and function as they relate to the production of normal human movement are explored using a variety of kinematic and kinetic analysis techniques. (*Fa*) Prerequisite: Entry-Level Physical Therapy Program Standing.

### 405. Neuroscience

4 credits

The structure, chemistry, and functioning of the brain in relation to learning, memory, emotion, personality, and complex human behaviors, including thought and language, are emphasized. Brain disorders are discussed. Resources used to study the structure, chemistry, and function of the human brain include laboratories and CD ROM programs. (*Fa*) Prerequisite: Entry-Level Physical Therapy Program Standing.

### 406. Applied Exercise Physiology I

4 credits

The fundamental principles of exercise physiology are explored. The anatomical, physiological, biochemical, and psychological effects of exercise in healthy untrained and trained individuals are studied. The effects of exercise on the human body are discussed across gender, race, and life span. Exercise performance under different environmental conditions is also presented. Cardiovascular endurance and skeletal muscle force generating assessment and training techniques are performed. Resources used to study the effects of exercise on the human body include exercise physiology laboratories, computer simulations, and observations. (*Fa*) Prerequisite: Entry-Level Physical Therapy Program Standing.

### 407. Human Learning and Behavior

4 credits

The basic principles of human learning and behavior are explored across gender, culture, and life span. Attention is focused on Pavlovian and instrumental conditioning and their applications in medicine and education; the concepts of motor learning and their application in skill learning and recovery of function; information-processing approaches to behavior; and behavior dysfunction. Basic research is related to applied efforts in educational technologies and behavior modification. (*Sp*) Prerequisite: Entry-Level Physical Therapy Program Standing.

**414. Biomechanics II**

4 credits

Biomechanics II is the second of a two-course sequence investigating the anatomical and mechanical bases of normal human movement. In this course, quantitative analysis is emphasized to integrate and apply previous biomechanical and kinesiological knowledge. Advanced technologies are introduced and applied to examine kinematic and kinetic principles introduced in both Biomechanics I and II. Students apply course material to design a research project and proceed through data collection and analysis, culminating with presentation. (*Sp*) Prerequisite: Entry-Level Physical Therapy Program Standing.

**416. Applied Exercise Physiology II**

This course is the second in a series of two exercise physiology courses where the investigation of fundamental exercise physiology principles are advanced. This course focuses on the acquisition of more complex exercise physiology concepts and their application as well as integration and critical analysis of fundamental exercise physiology content, acquired previously. The effects of exercise, decreased use, exercise testing and exercise prescription are explored and applied to individuals of varying gender, age and across the life span. The role of exercise in wellness and primary prevention programs is addressed. (*Sp*) Prerequisite: Entry-Level Physical Therapy Program Standing.

See the Carroll University Graduate Catalog for descriptions of Physical Therapy (PTH) courses in Phase II of the Entry-level Physical Therapy Program.