

**PEAC244** **\$ (1)**  
*I* *F* *H* .  
Analysis of and drills in fundamental skills, position play, and team strategies. Emphasis given to team play.

**PEAC245** **\$ (1)**  
*L* . :  
A six-day experience (Sunday–Friday) beyond the normally offered activity courses: Canoeing, Off-road Biking, Road Biking. Repeatable in different areas. Instructor's permission required. Consult the current class schedule for activities offered each year.  
*I* .

**PEAC255** **\$ (1)**  
*I* *A* )  
Learning, performance, and exploration of tumbling and balancing. With emphasis on conceptual creativity, choreography, and program management. Instruction on spotting techniques, teaching theories, progression and safety will be given.

**PEAC266** **(1)**  
*L* )  
Practical field experience in officiating. Rules, officiating mechanics, and signals, learned and practiced. MHSAA certification available. Certified officials have opportunities to earn up to \$50.00 a game for officiating elementary school, middle school, and high school athletic contests. Prerequisite: Previous knowledge of the game and/or experience playing the game.

**PEAC275** **\$ (1)**  
*L* ) - - ) .  
One to two week trips beyond the normally offered activity courses: Biking, Backpacking, Canoeing. Repeatable in different areas. Instructor's permission required. Consult the current class schedule for activities offered each year. *I*

**PEAC300** **(1)**  
*L* ) ) )  
Instruction in accident prevention, aquatic facility supervision, and water-rescue techniques. Successful completion results in American Red Cross Lifeguard Training certification. Current first aid and CPR certification included. Prerequisite: Ability to

Physical therapists work closely with their client's family, physician, and other members of the medical team to help their client return to their home environment and resume activities and relationships of normal daily living.

**Academic Calendar—2004–2005.** Contact the Physical Therapy Department for academic dates.

## PROFESSIONAL ENTRY-LEVEL PROGRAMS

**Doctor of Physical Therapy (DPT).** This three-year program is taught on the Berrien Springs campus and begins after a student completes 92 semester credits of college prerequisites. A previous college degree is not necessary. Students without a bachelor's degree may earn a Bachelor of Health Science (BHS) after the first year in the professional program and will earn the DPT degree upon successful completion of the program.

**Master of Physical Therapy (MPT).** The department is no longer enrolling students in the MPT Program on the Dayton, Ohio campus. For specific degree information, please see the bulletin of the admission year to the professional program.

### ACCREDITATION AND BOARD CERTIFICATION

The DPT and MPT programs are all accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). After receiving the degree graduates may apply to take the state board examination in the state of their choice.

### INFORMATION/APPLICATION PACKETS

Please call 1-800-827-2878, email [pt-info@andrews.edu](mailto:pt-info@andrews.edu) or visit [www.pt.andrews.edu](http://www.pt.andrews.edu) for packets, which describe admission requirements and provide all necessary forms for the DPT professional entry-level program. Information is available by June of each year. Applicants holding a bachelors or advanced degree are welcome to apply.

## DPT PROGRAM (Entry-Level)

Berrien Springs, MI

### ADMISSION REQUIREMENTS

There are three tracks for admission into the Andrews University DPT program:

#### Early Acceptance

Acceptance into the program is guaranteed if you enroll as a freshman pre-physical therapy major completing all prerequisite course requirements at Andrews University, earn the minimum required GPA and receive positive evaluations.

#### Preferred Admissions (Early Transfer Students)

Students who transfer into Andrews University to complete prerequisite courses will be given preference for admission into the professional program.

#### Transfer Students

The Andrews University physical therapy programs enroll students from a nationwide pool. Any student who has completed prerequisite courses from an accredited college or university (or U.S. equivalent) is welcome to apply for acceptance.

Admission to the DPT program is selective based on the following considerations:

**1. Prerequisite Courses:** Complete 92 semester credits of appropriate course work. At least 15 upper division credits from 3 or more content areas are required, unless holding a bachelor's degree.

**B** ✓ —A full sequence of anatomy and physiology or general biology with labs **plus** an upper division vertebrate biological science course.

**J** —**O** 1: A full sequence of general physics with labs as required for physics majors or pre-med students **plus** any two chemistry courses with labs; or

**O** 2: A full sequence of general chemistry with labs as required for chemistry majors or pre-med students **plus** any two physics courses with labs.

**I** ✓ —A course in basic medical terminology. May be taken by distance learning.

**C** **A** —A basic computer applications course or documentation of proficiency on Computer Literacy Form to those with a degree.

**/** —A basic statistics course.

**G** ✓ —An introductory psychology course.

**H** **B** —A course which covers physical, social, and psychological development beginning with conception.

\* —One course from the following options: sociology, geography, anthropology, minority groups, diversity, economics, American Government.

\* **E** ✓ —A full sequence of English Composition which includes writing components.

**C** —A course in basic communication skills.

\* **F** **A** —An appreciation, theory and/or history course in music, art, photography, etc. or 1 year of ensemble music (Private music lessons do not apply.)

\* **H** —One course from the following options: ethics, cultural perspectives, literature, philosophy, critical thinking, second language, world history, western civilization, U.S. history, American history, Canadian history.

\* **J** **E** —A physical fitness/wellness course.

\* **I** ✓ —One religion course per year is required if attending a Seventh-day Adventist school.

\* **E** —To fulfill the total 92 semester credits required, some suggestions include service related courses, business courses, cultural and diversity courses, arts and humanities, physical activities, nutrition.

\* Prerequisites with an asterisk are not required by applicants holding a bachelors degree from an accredited school.

**2. GPA Requirements:** A minimum GPA of 3.00 in prerequisite science courses and a minimum overall GPA of 3.00 in all prerequisite courses. A grade of "C-" or better is required in each prerequisite course.

**3. Clinical Observation:** Document 80 hours (including 20 hours in an inpatient setting) supervised by a licensed physical therapist. All hours must be completed within three years prior to enrollment.

**4. Application Materials:** Applications are accepted when a minimum of 4 or more prerequisite science courses and a minimum of 64 semester credits have been completed.

**5. Personal Interview:** Applicants who meet eligibility requirements are invited for a personal interview. Phone interviews may be acceptable.

**6. Graduate Record Exam (GRE):** Submit scores from the General Test taken less than five years prior to enrollment in the program.



## DEGREE REQUIREMENTS

The following degree requirements apply to students graduating from the DScPT program.

1. Satisfactory completion or competency in the courses listed below:  
PTH460, 500, 507, 536, 537, 538 or 545, 546, 547, 548, 550, 615, 630, 646, 718, 730, 740, 748, 760, 798, plus 10 approved elective credits.
2. Level III Manual Therapy Certification through NAIOMT or equivalent certification from another approved program.
3. Minimum of 2 years of part-time clinical practice (20 hours per week), or equivalent, in orthopedics, to be completed prior to the conferring of the degree.
4. No grade lower than "C" (2.00) in any course.
5. A minimum cumulative GPA of 3.00.
6. Satisfactory performance on terminal written examinations.

## Service Courses (Credits)

See inside front cover for symbol code.

Written permission from the Chair of the Physical Therapy program is required for non-physical therapy students to enroll in PTH/PHTH courses.

**PHTH120 (2)**

*I*

**1**

signs, limb girth and volumetric measurement will be practiced.

assess and treat acute and chronic orthopedic pathologies of the extremities and spine. Corequisite: PTH601.

**PTH612** (2)  
*L* *II L*

Designed for practice of the special techniques required in the assessment of intervention of acute and chronic orthopedic pathologies of the cervical, thoracic, and lumbar spine. Corequisite: PTH602.

**PTH620** (1)  
*E* *L*

Practical demonstration and experience with responses to exercise, testing procedures, and exercise prescription, focusing on activities appropriate for clinical situations. Tests and interventions noted in the *G* are highlighted. Corequisite: PTH610.

**PTH621** (2)  
*I* *D*

Introduction to the principles and practice of research, including designs, ethics, hypothesis testing and critical evaluation of clinical literature. Preparation and development of a graduate research proposal is interwoven throughout this course.

**PTH622** (1)  
*L*

Fundamental procedures in collecting, summarizing, presenting, analyzing, and interpreting statistical data. Statistical tests applied to medical specialties. Corequisite: PTH632.

**PTH625** (1)  
*C*

Lectures covering selected topics in cardiopulmonary medicine, focusing on clinical presentation, diagnostic tests, and medical and physical therapy interventions. Corequisite: PTH635.

**PTH627** (1)  
*L*

Prosthetic management of upper- and lower-limb amputee, orthotic management of patients with disabilities requiring orthotic intervention, and application/management of orthotic-traction devices. Corequisite: PTH637.

**PTH632** (1)  
*L*

Practice in the computation of statistical data using appropriate formulas. Practical applications of techniques in research and statistical computations including probability, normal distribution, Chi Square, correlations, and linear regressions. Corequisite: PTH622.

**PTH635** (1)  
*C* *L*

Emphasis on physical therapy assessment and intervention with cardiac and pulmonary patients. Practice of relevant techniques, such as stress testing, percussion, pulmonary function tests and breathing techniques, as well as other techniques identified in the *G*. Corequisite: PTH625.

**PTH637** (1)  
*L* *L*

Practice of the physical therapy techniques required in the application of orthotic and prosthetic devices. Special attention given to gait and function. Selected topics such as w-14.3048 -2.4 Telchair modin t60((tion of or)Chi Square, cnear remisctecaneoustic and prost-rehabT\*e)24u re



taxonomies of learning, learning styles, multiple intelligence, and educational technology.

**PTH749** (1)

*Advanced Practice and Application of Clinical Skills Required in the Physical Therapy Assessment and Intervention of Women's Health.*  
Corequisite: PTH739.

**PTH765** (1-2)

*Contemporary Ethical Issues and Relationships.*  
Contemporary ethical issues are explored, including the relationships among peers, superiors, subordinates, institutions, clients, and patients. Illustrations include actual cases related to Christian biblical principles.

**PTH768** (1)

*Summarization of Previous or Added Learning Experiences Relative to Contemporary Issues in Physical Therapy.*  
Summarization of previous or added learning experiences relative to contemporary issues in physical therapy. An overview of the new graduate's role and responsibility to his/her patients and their families, employer, and community in the expanding physical therapy profession.

**PTH788** (0)

*Non-package, reduced tuition rate applies.*

**PTH799** (1-3)

*( )*



**PHTH672**

*C . L : I*

(2)

lar and pulmonary conditions. Detailed information on exercise physiology will be discussed along with clinical applications among patients with compromised health.

**PTH538** (3)  
*AI<sup>L</sup> L II: I L*  
 A comprehensive biomechanical and anatomical review of the lower thoracic and lumbar spines, the hip, knee, ankle, and foot. Specific biomechanical assessment of each area is taught along with appropriate and effective treatment techniques for common injuries and dysfunctions.

**PTH545** (3)  
*A C*  
 The review of human physiological function of the major body systems with clinical application to musculoskeletal, cardiovascular and pulmonary conditions. Detailed information on exercise physiology will be discussed along with clinical applications among patients with compromised health.

**PTH546** (3)  
*AI<sup>L</sup> L III: A*  
 Builds on the techniques learned in Level II and helps the student understand the kinetic chain interrelationships of the upper quadrant. Integrates information generated in the assessment to understand how remote dysfunctions can be casual or contributory. Advanced techniques are demonstrated along with new material on temporo-mandibular-joint material and peripheral manipulation skills. Prerequisite: PTH537.

**PTH547** (3)  
*AI<sup>L</sup> L III: A L*  
 Builds on the techniques learned in Level II and helps the student understand the kinetic chain interrelationships in the lower quadrant. Presents advanced biomechanical tests and treatment and includes the sacroiliac and pubic joints. Discusses the integration of examination and treatment techniques. Prerequisite: PTH538.

**PTH548** (3)  
*AI<sup>L</sup> L I : H*  
 Instructs the student on the indications and contraindications, as well as the safe and effective application of spinal, pelvic, and costal manipulation techniques. Prerequisites: PTH546 and 547.

**PTH549** (3)  
*C L*  
 Theory and application of complexity sciences to organizational management; exploration of key leadership roles and changing paradigms; presentation of methods to maximize personal and professional life.

**PTH550** (4)  
*AI<sup>L</sup> C*  
 Using a 3-to-1 model, students will be required to do a minimum of 60 supervised clinical hours applying hands-on techniques with patients under the supervision of a certified NAIOMT clinical instructor, FAAOMPT, or other approved instructors. These hours can be done all at one time or split up into two 30-hour blocks.

**PTH556** (2)  
*AI<sup>L</sup> : G*  
 Lecture/lab course focused on detailed examination and treatment of the pelvic girdle. Emphasis is placed on a biomechanical model of testing and treating clinical dysfunction and pain.

**PTH557** (2)  
*AI<sup>L</sup> :*  
 Lecture/lab course studying the thoracic spine as a source of spinal dysfunction. Emphasis is placed on a biomechanical model

for detailed examination and treatment of the thoracic spine and costovertebral dysfunction.

**PTH558** (2)  
*AI<sup>L</sup> : A C D*  
 Lecture/lab course focused on examination and treatment of the patient with cervical trauma following an MVA. Emphasis is placed on developing a safe, effective and progressive examination and treatment program based on anatomical, histological and biomechanical changes resulting from the MVA trauma.

**PTH615** (2)  
*C*  
 Develops a non-prescriptive knowledge of specific medications including indications, contraindications, precautions, adverse reactions, and dosage, especially as related to the physiological effects of physical therapy interventions.

**PTH618** (2)  
*A*  
 Understanding physical therapy management of athletes: topics unique to sports medicine include preparticipation screening exams, field management of athletic injuries, designing comprehensive rehabilitation and conditioning programs, taping techniques, equipment fitting, biomechanics of the upper extremity and lower extremity in sports, specifically related to evaluation and treatment of common athletic injuries.

**PTH631** (1.5)  
*: L I*  
 Introduces the theory and clinical application of indirect techniques, with emphasis on practical use of strain-counterstrain (SCS) in combination with neuromotor reeducation techniques. SCS includes spinal, rib, pelvic, shoulder, and knee points, and home program material for patients. Neuromotor re-education concepts and options will be experienced for each region.

**PTH632** (1.5)  
*: L II*  
 Builds on concepts and techniques introduced in Level I. Adds SCS for distal extremity joints, full body motion analysis and SCS screen from which a plan for point release and neuromotor re-education is developed. More neuromotor reeducation exercises and options, and identifying and correcting vector(s) of traumatic injury. Prerequisite: PTH631.

**PTH646** (2-3)  
*H*  
 Discussion of spiritual values from a Christian perspective, how faith and spirituality facilitate the healing process, and how these can be incorporated into patient care. Attention will be given to discerning and addressing the spiritual needs of patients/clients, family members, and ancillary medical staff in a professional environment.

**PTH697** (2)  
*I L : C*  
 The student, working with their advisor and following degree/course guidelines, will develop an independent 40-hour learning contract with a qualified clinical specialist to facilitate intensive focused clinical training in a field of study of their choosing.

**PTH718** (3)  
*C : & D D*  
 Knowledge and clinical skills designed for screening patients for

medical conditions. Differential diagnosis is addressed through comparison of systematic signs and symptoms. Appropriate diagnostic tests which may indicate involvement of a problem outside the scope of physical therapy practice are addressed. Enhances professional communication with other healthcare practitioners included in the referral process.

**PTH730** (3)

D

Addresses imaging, body chemistry values and data derived from musculoskeletal, neurologic, vascular, cardiac and pulmonary testing with the purpose of understanding the disease process. Application of knowledge will determine differential diagnoses.

**PTH740** (3)

A

C

This course continues to cover the topic introduced in PTH630 in a more in-depth fashion. The student will learn how to set up a research study as well as review the literature and analyze the validity of the information presented. An introduction to setting up outcome studies will also be covered.

**PTH748** (1-2)

E

H

C

Examines and applies educational theory to skills utilized by the physical therapist in the classroom, community, and clinical facility. Topics include the educational role of the physical therapist, the taxonomies of learning, learning styles, multiple intelligence, and educational technology.

**PTH750** (2)

J

C

& C

An introduction to the integration of the physical therapist as consultant. Discussion will include applying physical therapy consultation services to individuals, business, schools, government agencies and/or other organizations.

**PTH760** (2)

A

C

Information presented on how to develop and present a publishable quality case study. It also includes the actual practice of doing an outcomes study in the clinical environment. Prerequisites: PTH630, 740.

**PTH798** (1-10)

C

E

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Serves as an essential outcome component to augment the professional development and new learning that occurs in didactic course work of the postprofessional doctoral degree and demonstrates the ability of the DPT/DScPT to make significant contributions to the profession and/or serve as a change agent in the field of physical therapy.

## PHYSICS

Haughey Hall, Room 211  
(269) 471-3430  
physics@andrews.edu  
http://physics.andrews.edu

### Faculty

Margarita C. K. Mattingly, C  
Gary W. Burdick  
Mickey D. Kutzner  
S. Clark Rowland

E

Robert E. Kingman  
Bruce E. Lee

Academic Programs	Credits
BS: Physics	40
BS: Biophysics	40
Minor in Physics	20

Physics describes the world in terms of matter and energy and relates the many facets of its phenomena in terms of fundamental law. Its scope includes systems that range in size from the sub-nuclear to the entire cosmos.

A major in physics supports and enhances professional careers in engineering, the life sciences, the physical sciences, and similar areas.

A major in biophysics prepares the graduate for advanced studies in medical and bioengineering fields. Both physics programs prepare the graduate for a career in secondary teaching.

## Undergraduate Programs

### BS: Physics—40

**Major Requirements:** PHYS241, 242, 271, 272, 277, 377, 411, 430, 431, 477, 481, 495 plus an additional 12 credits numbered 300 and above.

**Cognate Courses:** MATH141, 142, 215, 240, 286; CHEM131, 132; and CPTR125 (FORTRAN) or CPTR151.

Physics majors desiring secondary-teaching certification should also consult with the School of Education.

**Recommended Electives:** ELCT141, 142, TCED250.

### BS: Biophysics—40

**Offered by the biology and physics departments**

BIOL165, 166, 371; 372 or BCHM421\*; PHYS241, 242, 271, 272, 277, 377, 411, 416, 430 or CHEM431 and 441, PHYS431, 495

\*A student may earn a minor in chemistry by selecting BCHM421 or CHEM431 and 441.

**Cognate Courses—27**

CHEM131, 132, 231, 232, 241, 242; MATH141, 142, 286.

**Recommended Electives:** BCHM422, 430; CHEM432,442; ELCT141, 142; MATH215, 240.