

- PETH457** Alt (2)  
*Physical Education in the Elementary School*  
Content and organization of physical education programs in the elementary schools.
- PETH450** (1-10)  
*Practicum in Health, Physical Education, and Recreation*  
Supervised experience in area health, fitness, and rehabilitation programs. Limited to junior or senior departmental majors. Graded S/U. *Fall, Spring*
- PETH457** Alt (2)  
*Physical Education in the Elementary School*  
Content and organization of physical education programs in the elementary schools. *Fall* (even years)
- PETH459** Alt (3)  
*Secondary Methods in Teaching Physical Education*  
The application of teaching principles and strategies as they apply to Secondary Physical Education. Should be taken the senior year. *Fall* (even years).
- PETH460** Alt (1)  
*Organization and Administration of Physical Education*  
Techniques and methods of administration and organization of a physical education department. Areas include facility management, supervision of workers, budgeting, intramural organization, public relations, and legal issues. Should be taken the senior year. *Spring* (even years)
- PETH470** Alt (1)  
*Seminar in Physical Education and Health*  
Explores current issues relevant to physical education and health, by presentations, readings, and projects. Prerequisites: PETH306, 360, 370. *Fall* (even years)
- PETH495** (1-4)  
*Independent Study/Reading/Research/Project*  
*Independent Study:* Directed study in an area of interest resulting in a formal term paper.  
*Independent Readings:* Weekly meetings with the instructor for individual assignments and reports.  
*Independent Research:* Design and execution of an experiment or causal-comparative research.  
*Independent Project:* Practical or creative experience or project in consultation with instructor. Permission required from the instructor and department chair. Thirty hours of involvement required for each credit. Contract of proposed activity required. Repeatable to 4 credits in each area. *Fall, Spring*

# PHYSICAL THERAPY

## Berrien Springs Campus

Physical Therapy Building  
Department Administration & Admissions  
(616) 471-AUPT or 800-827-AUPT  
FAX: (616) 471-2867  
pt-info@andrews.edu  
http://www.andrews.edu/PHTH/

MSPT/DPT Program  
(616) 471-AUPT or 800-827-AUPT  
FAX: (616) 471-2866

## Dayton Campus

Andrews University Physical Therapy  
2912 Springboro West, Suite 301  
Dayton, OH 45439-1674  
(937) 298-AUPT or 888-827-AUPT  
FAX: (937) 298-9500

## Faculty

C. William Habenicht, *Chair*

## Berrien Campus

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John C. Banks  
Kathy A. Berglund  
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Bonny D. Dent  
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Elizabeth Oakley  
David P. Village

## Dayton Campus

Daryl W. Stuart, *Program Director*  
Philip A. Anloague  
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Heidi C. Clarke  
Betsy Donahoe-Fillmore  
Kurt J. Jackson  
Harold L. Merriman  
Janet A. Mulcare

Academic Credits	Credits
<u>Berrien Springs Campus</u>	
BHS: Bachelor of Health Science (Interim degree for DPT students)	
DPT: Doctor of Physical Therapy	117
BS: Anatomy & Physiology (phasing out) Interim degree for MSPT students)	
MSPT: Master of Science in Physical Therapy (5 years that includes BS credits) Note: no longer accepting MSPT students	174
PPDPT: Postprofessional Doctor of Physical Therapy	30-38
DScPT: Doctor of Science in Physical Therapy	63
<u>Dayton, Ohio Campus</u>	
MPT: Master of Physical Therapy	78.5

Physical therapy is a health profession dedicated to evaluating, treating, and preventing physical injury and disease. Physical therapists design and implement the necessary therapeutic interventions to promote fitness, health and improve the quality of life in patients. They also become active in consultation, education and research.

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.

## PROFESSIONAL ENTRY-LEVEL PROGRAMS

**Doctor of Physical Therapy (DPT).** This three-year program begins after a student completes 92 semester credits of college prerequisites. A previous college degree is not necessary. Students may earn two degrees: an interim Bachelor of Health Science (BHS)—received after one year in the professional program—and a DPT degree.

**Master of Science in Physical Therapy (MSPT).** The department is no longer enrolling students in the MSPT program. For specific degree information please see bulletin of the admission year to the professional program.

**Master in Physical Therapy (MPT).** This two-year program is offered in Dayton, OH. The curriculum uses problem-based learning and is designed for individuals who already have completed a baccalaureate degree. The MPT faculty are currently working on a proposal for the Ohio Board of Regents (OBR) which would allow the Dayton program to offer the DPT degree. This proposal will be submitted to the OBR spring semester 2002.

### ACCREDITATION AND BOARD CERTIFICATION

The DPT, MSPT, and MPT programs are all accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). Graduates may apply to take the state board examination in the state of their choice after receiving the DPT, MSPT, or MPT degrees.

### INFORMATION/APPLICATION PACKETS

Packets which describe admission requirements for the DPT and MPT professional entry-level programs and provide all necessary forms and instructions for application are available by June of each year. Applicants holding a baccalaureate or advanced degree are welcome to apply to either entry-level program and will receive equal consideration for admission. Please call 1-800-827-2878, email pt-info@andrews.edu or visit www.andrews.edu/PHTH.

## DPT PROGRAM

Berrien Springs, MI

### ADMISSION REQUIREMENTS

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.

**Biological Sciences**—A full sequence of anatomy and physiology or general biology with labs **plus** an upper division human, animal, or exercise physiology course

**Physical Sciences—Option 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;

**Option 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.

**Medical Terminology**—A course in basic medical terminology. May be taken by distance learning

**Computer Applications**—A basic computer applications course

**Math/Statistics**—A basic statistics course

**General Psychology**—An introductory psychology course

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

- \* **Social Science**—One course from the following options: sociology, geography, anthropology, minority groups, diversity, economics, American Government
  - \* **English**—A full sequence of English Composition which includes writing components
  - Communication**—A course on human communication, one-to-one, small group, and public speaking
  - \* **Fine Arts**—An appreciation, theory and/or history course in music, art, photography, etc. or 1 year of ensemble music (Private music lessons do not apply.)
  - \* **Humanities**—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
  - \* **Physical Education**—A physical fitness/wellness theory course
  - \* **Religion**—One religion course per year is required if attending a Seventh-day Adventist school
  - \* **Electives**—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.
  - \* These prerequisites are not required by applicants holding a baccalaureate degree from an accredited school.
- AU Pre-PT Students: see General Education requirements on p. 34.
- 2. GPA Requirements:** A minimum GPA of 3.00 in prerequisite science courses and a minimum overall GPA of 3.00 in general course work including electives. A grade of "C" or better is required in all prerequisite courses.
  - 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.
  - 6. Graduate Record Exam (GRE):** Submit scores from the General Test taken less than five years prior to enrollment in the program.
  - 7. English Proficiency:** See p. 26. In addition, applicants whose first language is not English must document successful completion of 20 semester credits of course work taken in the US or Canada, with instruction in the English language. An English translation of relevant course descriptions from college catalogs are required for all course work taken in another language.

**PROFESSIONAL PROGRAM: UNDERGRADUATE YEAR**

The first year of the three-year professional education program is offered at the senior-year undergraduate level. Students successfully completing their prerequisites and the first year of the professional program qualify for an interim Bachelor of Health Science degree.

**Continued Undergraduate Enrollment Requirements**

Students must successfully complete all didactic PTH course work listed for the previous academic term, maintain the minimum cumulative GPA, technical standards, and professional behaviors.

See *Physical Therapy Student Handbook* for more information regarding minimum GPAs for academic progression, technical standards, professional behaviors, and other specific requirements.

**Bachelor of Health Science**

(Interim Degree)

**Prerequisites—92****DPT Program Courses—36**

400, 410, 415, 416, 418, 420, 425, 426, 428, 430, 440, 445, 455, 457, RELG360.

**GRADUATE YEARS**

In addition to course work, components of the two graduate years include a graduate research project and five clinical internships. Elective course work is also permitted, allowing students to explore other areas of interest. Upon successful completion of the graduate years, students earn the Doctor of Physical Therapy degree.

**Graduate Admission Requirements**

In addition to meeting the General Minimum Admission Requirements for graduate degree programs on p. 40, the following departmental requirements apply for transitioning from the undergraduate to the graduate phase of this program:

1. Completion of a baccalaureate degree.
2. Successful completion of all undergraduate physical therapist program courses with a minimum GPA of 2.5
3. Completion of the GRE General Test.

**Continued Graduate Enrollment Requirements**

Students must successfully complete the Bachelor of Health Science degree requirements, all didactic PTH course work listed for the previous academic term, maintenance of minimum cumulative GPA, technical standards, and professional behaviors.

See *Physical Therapy Student Handbook* for more information regarding minimum GPAs for academic progression, technical standards, professional behaviors, and other specific requirements.

**DPT DEGREE REQUIREMENTS**

In addition to the General Minimum Requirements for graduate degree programs on p. 41, the following departmental/program requirements apply. These are subject to change by action of the Physical Therapy Degree Council.

1. Satisfactory completion of the BHS degree requirements.
2. Satisfactory completion of the 81 credits in the DPT curriculum including:
  - **Major Requirements:** PTH540, 601, 602, 610, 611, 612, 620, 621, 622, 625, 627, 632, 635, 637, 640, 645, 646, 647, 650, 651, 652, 657, 661, 662, 680, 726, 728, 736, 748, 765, 768, 799, 880, 881, 882, 883, 884.
  - **Electives—6**  
A minimum of 6 additional credits of electives at the graduate level. Selection of these electives outside the department requires the approval of the DPT program director.

2. No grade lower than C (2.00) in any course in the graduate portion of the program.
3. A minimum GPA of 3.00 for the graduate portion of the program.
4. Satisfactory completion of the graduate practical and written comprehensive exams.
5. Satisfactory completion of the research project and research presentation.

See *Physical Therapy Student Handbook* for additional requirements.

**MPT PROGRAM**

Dayton, OH Campus

**ADMISSION REQUIREMENTS**

Applicants must meet the General Minimum Admission Requirements for graduate degree programs on p. 39-41. Admission to the MPT Program is selective based on the following considerations:

1. Undergraduate Degree: Baccalaureate degree or its equivalent (as determined by the Graduate Admissions Office) with a minimum cumulative GPA of 3.00.
2. Prerequisite Courses:

**Biological Sciences—Option 1:** A full sequence of anatomy and physiology with labs; **Option 2:** A term of human or animal physiology and one term selected from human anatomy with lab, microbiology with lab, general biology with lab, or zoology with lab.

**Physical Sciences—Option 1:** A full sequence (minimum 6 semester credits or 8 quarter credits) of general physics with labs as required for physics majors or pre-med students **plus** any chemistry course with lab; **Option 2:** A full sequence (minimum 6 semester credits or 8 quarter credits) of general chemistry with labs as required for chemistry majors or pre-med students **plus** any physics course with lab.

**Computer Applications—**Documented competency in basic computer applications.

**Math/Statistics—**A basic statistics course

**General Psychology—**An introductory psychology course.

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

3. GPA Requirements: A minimum GPA of 3.00 is required at the time of graduation. Post-graduate course work is not included in the Degree GPA calculation. A minimum GPA of 3.00 in prerequisite science courses. A grade of "C" or better is required in all prerequisite courses.
4. 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.
5. Application Materials: Applications are accepted when a minimum of 3 or more prerequisite science courses have been completed.
6. Personal Interview: Applicants who meet eligibility requirements are invited for a personal interview.
7. Graduate Record Exam (GRE): Submit scores from the General Test taken less than five years prior to enrollment in the program.
8. English Proficiency: See p. 26. In addition, applicants whose first language is not English must document successful completion of 20 semester credits of course work taken in the US or Canada, with instruction in the English language. An English translation of relevant course descriptions from college catalogs are required for all course work taken in another language.  
Exceptions to the above prerequisites are considered on an individual basis (e.g., licensed health-care professionals or unique academic situations).

## MPT DEGREE REQUIREMENTS

In addition to the General Minimum Requirements for graduate-degree programs on p. 45, the following departmental/program requirements apply for graduation.

1. Satisfactory completion of the 78.5 credits of the MPT curriculum.
2. No grade lower than C (2.00) in any course.
3. A minimum cumulative GPA of 3.00.
4. Satisfactory performance on terminal written and clinical examinations.

## CONTINUED ENROLLMENT REQUIREMENTS

1. Progressive enrollment in the physical therapist education program requires successful completion of all PHTH course work including clinical education listed for the previous academic term.
2. A student whose cumulative GPA falls below 3.00 in any given academic term is placed on academic probation. Students who do not increase the cumulative GPA to 3.00 during the academic term of probation are normally asked to withdraw.

See the *Physical Therapy Student Handbook* for additional requirements.

## MPT DEGREE REQUIREMENTS

In addition to the General Minimum Requirements for graduate degree programs on p. 45, the following departmental/program requirements apply for graduation.

1. Satisfactory completion of the 78.5 credits of the MPT curriculum:
  - Basic Courses**  
PHTH505, 506, 508, 510, 515, 518, 540, 546, 606, 608, 661, 662, 663, 664, 665, 671, 672, 673, 674, 675, 681, 682, 683, 684, 685, 687, 688.
  - Research**  
Written and oral research proposal presentation and graduate project (PHTH601, 692, 693).
  - Clinical Education Experiences**  
PHTH651, 652, 653, 654.
2. No grade lower than C (2.00) in any course.
3. A minimum cumulative GPA of 3.00.
4. Satisfactory performance on terminal written and clinical examinations.

## POST-PROFESSIONAL PROGRAMS

- Doctor of Physical Therapy (DPT)
- Doctor of Science in Physical Therapy (DScPT)
- Advanced Master in Physical Therapy (AMPT)  
The department is no longer accepting students into this program. For specific degree requirements see the bulletin for the year of admission into the program

These post-professional programs are designed to provide practicing physical therapists with the opportunity to obtain post-professional studies and an advanced clinical doctoral degree in the field of their discipline without the need to terminate or significantly change their regular employment or lifestyle. Classes are taught in a short-course format of three-six days per course. All courses may be taken to earn academic credit or continuing education units (CEUs).

## DPT PROGRAM

### ADMISSION REQUIREMENTS

In addition to meeting the General Minimum Admission Requirements for graduate degree programs on p. 39-41, the following departmental requirements apply.

1. Hold current licensure as a physical therapist.
2. Submit graduate application.
3. Submit a minimum of two satisfactory recommendations: one from a currently practicing physical therapist, and the other from a medical doctor.

### DEGREE REQUIREMENTS

In addition to the General Minimum Requirements for graduate-degree programs on p. 45, the following departmental/program requirements apply to students graduating from the post-professional DPT program.

1. Satisfactory completion of the courses listed below:
  - **Licensed therapists entering with a bachelors degree:**  
PTH507, 545, 598, 615, 619, 646, 718, 730, 740, 750, 525, 600, 605, 630. Elective courses (minimum of 7 credits).
  - **Licensed therapists entering with a masters degree:**  
PTH507, 545, 598, 615, 619, 646, 718, 730, 740, 750. Elective courses (minimum of 7 credits).
2. No grade lower than C (2.0) in any course.
3. A minimum cumulative GPA of 3.00.
4. Satisfactory performance on terminal written examinations.

## DScPT PROGRAM

The department of physical therapy is currently developing the curriculum proposal for the Doctor of Science in Physical Therapy degree. This degree is designed to prepare the clinical specialist in manual therapy and will incorporate courses from the North American Institute of Orthopedic Manual Therapy.

### ADMISSION REQUIREMENTS

In addition to meeting the General Minimum Admission Requirements for graduate degree programs on pp. 39-41, the following departmental requirements apply.

1. Hold current licensure, or its equivalent, as a physical therapist.
2. A minimum of 2 years of full-time clinical practice for clinicians with a masters degree, and 3 years for clinicians with a bachelors degree.
3. Submit graduate application.
4. Submit a minimum of two satisfactory recommendations: one from a currently practicing physical therapist, and the other from a medical doctor.

### DEGREE REQUIREMENTS

In addition to the General Minimum Requirements for graduate-degree programs on p. 45, the following departmental/program requirements apply to students graduating from the post-professional DPT program.

1. Satisfactory completion of the courses listed below:  
PTH500, 507, 536, 537, 538, 546, 547, 548, 550, 615, 619, 630, 646, 718, 730, 740, 798.
2. Manual Therapy Certification through NAIOMT or equivalent certification from another clinical speciality.
3. Minimum of 2 years of full-time clinical practice, or equivalent, in orthopedics, to be completed prior to the conferring of the degree.

## Courses

(Credits)

See inside front cover for symbol code.

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

### PHTH120 (2)

#### *Introduction to Physical Therapy*

An introduction to the profession of physical therapy with an overview of duties and responsibilities physical therapists perform. Partially fulfills the clinical observation prerequisites for admission to the professional program. Students must have their own transportation for the clinical observation.

### PHTH417 ◆ (3)

#### *Human Anatomy*

Comprehensive study of human anatomy covering all systems of head, neck, trunk, and extremities. A solid morphological basis for a synthesis of anatomy, physiology, and clinical sciences provided. Dissection and identification of structures in the cadaver, and the study of charts, models, and prosected materials. Prerequisites: BIOL111, 112 or BIOL165, 166 or equivalent. See instructor for additional requirements. Corequisite: PTH427.

### PHTH427 \$ ◆ (1)

#### *Human Anatomy Laboratory*

Study of the prosected extremity, head and neck anatomy, and dissection of the abdominal and thoracic organ systems. Prerequisites: same as for PTH417. Corequisite: PTH417.

## DPT PROGRAM

Berrien Springs, MI

### PTH400 (4)

#### *Anatomy*

A comprehensive study of human anatomy with emphasis on the nervous, skeletal, muscle, and circulatory systems. Introduction to basic embryology and its relation to anatomy and the clinical sciences concludes the course. Provides a solid morphological basis for a synthesis of anatomy, physiology, and the physical therapy clinical sciences. Corequisite: PTH410.

### PTH410 (3)

#### *Anatomy Laboratory*

Dissection and identification of structures in the cadaver supplemented with the study of charts, models, prosected materials and radiographs are used to identify anatomical landmarks and configurations. Corequisite: PTH400.

### PTH415 (4)

#### *PT Assessment Skills*

Introduction to assessment principles and examination skills utilized in all areas of physical therapy. The *Guide to Physical Therapy Practice* is referenced for the basic skills required in the assessment, intervention and documentation guidelines. Corequisite: PTH425.

### PTH416 (3)

#### *Pathokinesiology*

The study of human movement including an introduction to the basic concepts of biomechanics with an emphasis on human joint/muscle structures and function, advancing to analysis of body mechanics, normal gait analysis, and pathological movement

analysis. Joint abnormalities will be identified using radiographs, related to the resultant movement dysfunction. Prerequisites: PTH400 and 410. Corequisite: PTH426.

### PTH418 (2)

#### *General Medicine*

Clinical techniques applied to the examination, evaluation, intervention, and discharge planning of patients in general medical, acute-care and subacute-care settings. Emphasis on physical therapy intervention with relevant factors, management of pain and physical complications during medical treatment, and examination and intervention of special populations including wound and burn care. Corequisite: PTH428.

### PTH420 (3)

#### *Therapeutic Interventions*

Basic principles, physiologic effects, indications and contraindications, application and usage of equipment, and intervention rationale for hydrotherapy, thermal agents, wound care, massage, electrotherapy and mechanotherapy (traction) and other therapeutic interventions. Corequisite: PTH430.

### PTH425 (2)

#### *PT Assessment Skills Laboratory*

Basic examination skills including sensation, joint motion, vital signs, girth and palpation will be practiced. Clinical application in basic physical therapy care including patient positioning, transfer and transport techniques, selection and use of ambulatory aids, vital sign determination, aseptic techniques, basic wound care, and blood-borne pathogens. Corequisite: PTH415.

### PTH426 (2)

#### *Pathokinesiology Laboratory*

Basic examination procedures for joint motion and limb measurements including goniometry, volumetric measurements, palpation, muscle strength testing, and introduction to accessory joint movement. Integration of basic examination skills with gait and movement analysis. Prerequisites: PTH400 and 410. Coerequisite: PTH416.

### PTH428 (1)

#### *General Medicine Laboratory*

Practice in examinations modified for the acute-care environment. Applications include home-and work-place evaluation for architectural barriers, functional procedures, serial casting, traction and modification of interventions for acute care including documentation. Corequisite: PTH418.

### PTH430 (2)

#### *Therapeutic Interventions Laboratory*

Supervised practicum includes patient positioning and application of the therapy to obtain desired physiological response. Techniques of hydrotherapy, thermal agents, wound care, and massage, as well as specific electrotherapy and mechanotherapy treatments and assessment of physiological responses to those treatments. Corequisite: PTH420.

### PTH440 (3)

#### *Pathophysiology I*

Sequence studying disease processes affecting major body systems and the resulting anatomical and pathophysiological changes. Clinical presentations and pharmacological treatment of patients with those disease processes are presented, as well as diagnostic tests and laboratory values used to identify pathological conditions. Prerequisites: PTH400 and 410.

- PTH445** (2)  
*Neuroscience*  
Basic anatomy and functions of the central and peripheral nervous systems and their related structures. Sensory and motor pathways of the central nervous system are examined along with a study of membrane permeability, synaptic transmission and neuro transmitters. A cranial overview is also included. Prerequisites: PTH400 and 410. Corequisite: PTH455.
- PTH455** (1)  
*Neuroscience Laboratory*  
Study of the prosected central and peripheral nervous tissues, models, and charts. Imaging will be used to compare normal to abnormal CNS presentation. Prerequisites: PTH400 and 410. Corequisite: PTH445.
- PTH457** (2)  
*Orthopedic Medicine*  
Medical lectures covering selected topics in orthopedics, including common orthopedic diseases and the use of diagnostic testing and imaging in the orthopedic field.
- PTH460** (1-4)  
*Topics in \_\_\_\_\_*  
Selected topics in physical therapy. Permission of department chair required. Repeatable. Specific prerequisites may be required for some subject areas.
- PTH495** (1-4)  
*Independent Study/Readings/Research/Projects*  
Permission of department chair required prior to registration for all independent work. Repeatable to 8 credits.
- PTH540** (2)  
*Pathophysiology II*  
Sequence studying disease processes affecting major body systems and the resulting anatomical and pathophysiological changes. Clinical presentations and pharmacological treatment of patients with those disease processes considered, as well as diagnostic tests and laboratory values used to identify pathological conditions. Prerequisites: PTH400 and 410.
- PTH589** (1-2)  
*Professional Seminar*
- PTH590** (1-4)  
*Topics in \_\_\_\_\_*  
Selected topics in physical therapy. Permission of department chair required. Repeatable. Specific prerequisites may be required for some subject areas.
- PTH601** (2)  
*Orthopedics I*  
Presentation of fundamental physical therapy knowledge in the assessment and intervention of a patient with both acute and chronic conditions of the extremities. Screening of the cervical and lumbar spine prior to tests is covered, progressing to complete assessment of the spine. Diagnostic tests and results pertinent to the orthopedic patient are related to a physical therapy differential diagnosis. Corequisite: PTH611.
- PTH602** (2)  
*Orthopedics II*  
A continuation of the presentation of information regarding orthopedic pathology of the spine with emphasis on treatment techniques for the different pathologies from a physician and physical therapist's perspective. A decision making model focusing on a differential diagnosis is incorporated throughout the course. Corequisite: PTH612.
- PTH610** (2)  
*Therapeutic Exercise*  
Examines the systemic responses to exercise as related to both an acute nature and in response to training. Specific pathological conditions are discussed in relation to exercise testing and prescription, and a clinical decision making process is presented for working with additional pathological conditions. Corequisite: PTH620.
- PTH611** (2)  
*Orthopedics I Laboratory*  
Clinical application and practice in the special techniques to assess and treat acute and chronic orthopedic pathologies of the extremities and spine. Corequisite: PTH601.
- PTH612** (2)  
*Orthopedics II Laboratory*  
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)  
*Therapeutic Exercise Laboratory*  
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 *Physical Therapy Guide to Practice* are highlighted. Corequisite: PTH610.
- PTH621** (1)  
*Research Design*  
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** (2)  
*Research Statistics*  
Fundamental procedures in collecting, summarizing, presenting, analyzing, and interpreting statistical data. Statistical tests applied to medical specialities. Corequisite: PTH632.
- PTH625** (1)  
*Cardiopulmonary*  
Lectures covering selected topics in cardiopulmonary medicine, focusing on clinical presentation, diagnostic tests, and medical and physical therapy interventions. Corequisite: PTH635.
- PTH627** (1)  
*Orthotics and Prosthetics*  
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)  
*Research Statistics Laboratory*  
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)**  
***Cardiopulmonary Laboratory***

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 *Physical Therapy Guide to Practice*. Corequisite: PTH625.

**PTH637 (1)**  
***Orthotics and Prosthetics Laboratory***

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 wheelchair modifications, miscellaneous ortho-rehab apparatus, and other assistive/adaptive devices included. Corequisite: PTH627.

**PTH640 (2)**  
***Pediatrics***

An overview of embryologic development, followed by normal infant/child development to 5 years of age with an emphasis on motor development. Identification of assessment techniques for infants and children with normal and abnormal development. Description of various pediatric pathologies encountered in physical therapy with appropriate corresponding assessment and treatment approaches. Corequisite: PTH650.

**PTH645 (4)**  
***Physical Therapy Administration and Leadership***

A study of the organizational structures, operations, and financing of healthcare delivery institutions and an examination of the organization and interrelationship of its professional and support elements. Application of current health care management strategies and theory are related to the acute-care facility and independent practice.

**PTH646 (2)**  
***Spirituality in Healthcare***

A 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.

**PTH647 (2)**  
***Differential Diagnosis***

Analysis of the decision making process, with special focus on clinical guidelines, *Physical Therapy Guide to Practice*, and differential diagnosis. Differential diagnosis is addressed through comparison of systemic signs and symptoms, as well as appropriate diagnostic tests which may indicate involvement of a problem outside of the scope of PT practice.

**PTH650 (2)**  
***Pediatrics Laboratory***

Practice of physical therapy assessment of the infant/child that address different developmental domains. Practice in the special techniques required in assessment and treatment of pediatric patients diagnosed with selected pathologies. Introduces current treatment approaches, such as Neurodevelopmental Treatment (NDT), with their effects on treatment goals. Corequisite: PTH640.

**PTH651 (2)**  
***Neurology I***

Review of basic neurophysiological mechanisms specific to nervous system dysfunction, related to clinical concepts in treatment of conditions affecting the nervous system, such as spinal cord injury, head injury, stroke, and selected peripheral pathologies. Emphasis on comparing and contrasting facilitation techniques. Corequisite: PTH661.

**PTH652 (2)**  
***Neurology II***

Continuation of PTH651 Neurology I, focusing on assessment and intervention with selected neurologic conditions. Common treatment techniques are compared with rationale for use of each. Prerequisite: PTH651. Corequisite: PTH662.

**PTH657 (1)**  
***Neurologic Medicine***

Medical lectures covering selected topics in neurology, including common neurologic diseases and the use of diagnostic testing and imaging in the neurologic field.

**PTH661 (2)**  
***Neurology I Laboratory***

Clinical application, rehabilitation practice, and techniques applied to nervous system dysfunction. Intervention techniques for conditions affecting the nervous system, such as spinal cord injury, head injury, stroke, and selected peripheral pathologies. Corequisite: PTH651.

**PTH662 (2)**  
***Neurology II Laboratory***

Clinical application, rehabilitation practice, and techniques applied to basic physiological and neurophysiological mechanisms specific to nervous system dysfunction. Focus on techniques appropriate for use with neurologic patients and evaluation of patient response to treatment. Prerequisite: PTH661. Corequisite: PTH652.

**PTH680 (2)**  
***Clinical Practicum***

Practice of the knowledge and skills developed in the classroom and laboratory in a patient-care setting. This practicum consists of 4 weeks full-time physical therapy experience in clinical facilities affiliated with the university. Repeatable.

**PTH690 (1-4)**  
***Independent Study***

Individualized study and/or research in a specialized area under the guidance of an instructor. Permission from the department chair required prior to registration. Repeatable to 8 credits.

**PTH710 (2)**  
***Advanced Concepts in Neurology***

Advanced education in theory and clinical practice in the treatment of neurological dysfunction. Theories and clinical areas covered may include Neuro Developmental Technique (NDT), Motor Relearning Program (MRP), and other selected approaches. Focuses primarily on helping the student achieve advanced skills in transition from theory to clinical practice. Corequisite: PTH720.

**PTH715 (2)**  
***Advanced Concepts in Pediatrics***

Advanced assessment and intervention strategies for the pediatric patient. Corequisite: PTH725.

- PTH717** (2)  
*Advanced Concepts in Aquatic & Alternative Medicine*  
Advanced aquatic therapy program design and intervention and an overview of complementary therapies focusing on physical therapy evaluation and intervention. Corequisite: PTH727.
- PTH720** (1)  
*Advanced Concepts in Neurology Laboratory*  
Clinical application, rehabilitation practice, and techniques applied to advanced clinical practice in the treatment of neurological dysfunction. Theories and clinical areas covered may include Neuro Developmental Technique (NDT), Motor Relearning Program (MRP), and other selected approaches. Corequisite: PTH710.
- PTH725** (1)  
*Advanced Concepts in Pediatrics Laboratory*  
Practice and application of skills required in working with orthopedic and neurologically involved pediatric patients as well as pediatric patients that show developmental risk factors and/or delays. Corequisite: PTH715.
- PTH726** (2)  
*Geriatrics*  
Study of the unique characteristics of the geriatric patient, especially the physiological, psychological and social aspects, related to special needs in the physical therapy assessment, plan of care, and intervention.
- PTH727** (1)  
*Advanced Concepts in Aquatic & Alternative Medicine Laboratory*  
Designed for the clinical application and practice of special techniques in complementary aquatic and therapies. Corequisite: PTH717.
- PTH728** (1)  
*Christian Finance Seminar*  
Basic principles of stewardship as taught in the Bible in contrast with those taught and practiced by the world. Includes elements of personal and family budgets and investments and how to create and use them.
- PTH735** (2)  
*Advanced Concepts in Industrial Medicine*  
A broad overview of occupational medicine with emphasis on assessment and intervention procedures for industrial rehabilitation. An instructional block included on the prevention of work-related injuries with an evaluation of the workplace and the development of appropriate job descriptions. Corequisite: PTH745.
- PTH736** (3)  
*Psychosocial Effects in Patients*  
An introduction to psychosocial responses to illness and disability, especially the interpersonal relationships between the therapist, the family and the patient. Common psychiatric disorders are discussed along with their clinical diagnosis, treatment regimens, projected outcomes and methods for handling these responses in clinical situations utilizing interviewing and counseling skills.
- PTH737** (2)  
*Advanced Concepts in Sports Medicine and Orthopedics*  
Advanced understanding of orthopedic pathology of the spine and extremity joints, with attention to athletic injuries of these areas. Measures covered include the pre-participation physical exam, designing conditioning programs, taping, equipment fitting, advanced first aid for evaluating and treating field injuries, and other selected orthopedic pathology. Corequisite: PTH747.
- PTH739** (2)  
*Advanced Concepts in Women's Health*  
An advanced understanding of issues relating to the physical therapy assessment and intervention of women's health concerns. Clinical areas covered include pregnancy, menopause, post-mastectomy and hysterectomy rehabilitation. Corequisite: PTH749.
- PTH745** (1)  
*Advanced Concepts in Industrial Medicine Laboratory*  
Observation, demonstration, and practice in the assessment, intervention, and patient instruction procedures relating to occupational medicine. Corequisite: PTH735.
- PTH747** \$ (1)  
*Advanced Concepts in Sports Medicine and Orthopedics Laboratory*  
Practice in advanced examination and intervention procedures for orthopedic pathology with special emphasis on athletic injuries. Practice of different exercise regimens and taping techniques. Corequisite: PTH737.
- PTH748** (1)  
*Educational Techniques for Health Professionals*  
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.
- PTH749** (1)  
*Advanced Concepts in Women's Health Laboratory*  
Advanced practice and application of clinical skills required in the physical therapy assessment and intervention of women's health. Corequisite: PTH739.
- PTH765** (1-2)  
*Ethical & Legal Issues in Healthcare*  
Contemporary ethical issues are examined, including the relationships between peers, superiors, subordinates, institutions, clients, and patients. Issues are illustrated with real-life cases and related to Christian biblical presuppositions.
- PTH768** (1)  
*Professional Compendium*  
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)  
*Research Project Continuation*  
Non-package, reduced tuition rate applies.
- PTH799** (1-3)  
*Research Project (topic)*  
Provides students with guidelines and supervision for data collection, analysis, thesis preparation and oral presentation. To be repeated to 3 credits.
- PTH880** (1)  
*PT Seminar*  
Preparation of a personal portfolio, assessment of the clinical experiences and preparation for professional licensure.

**PTH881, 882, 883, 884** (4, 4, 5, 5)

***Clinical Affiliation I, II, III, IV***

Advanced full-time clinical experience (I & II=8 weeks; III & IV=10 weeks each) in a variety of professional practice settings. One of the affiliations must be in an inpatient setting. Thirty-six to forty hours per week. May be repeated.

**MSPT PROGRAM**

Berrien Springs, MI

**PHTH317** (4)

***Gross Anatomy***

A comprehensive study of human anatomy with emphasis on the nervous, skeletal, muscle, and circulatory systems. Provides a solid morphological basis for a synthesis of anatomy, physiology, and the physical therapy clinical sciences. Corequisite: PHTH327.

**PHTH324** (1)

***Therapeutic Procedures***

Principles and utilization of basic physical therapy care including patient positioning, transfer and transport techniques, selection and use of wheelchairs and other ambulatory aids, vital-sign determination, ascetic techniques, basic wound care, and blood-borne pathogens. Corequisite: PHTH334.

**PHTH326** (1.5)

***Lifestyle Problems in Physical Therapy***

Introduces lifestyle factors that are related to health and disease and emphasizes preventive aspects of proper lifestyle. Topics include addictive substances, proper diet, exercise, and mental health, and the way these impact conditions treated in physical therapy practice.

**PHTH327** (2.5)

***Gross Anatomy Laboratory***

Dissection and identification of structures in the cadaver, and the study of charts, models, and prosected materials. Corequisite: PHTH317.

**PHTH329** (1.5)

***Professional Orientation***

Introduction to the physical therapist's professional role in various medical and community settings. Medical, legal, ethical, philosophical, and historical concerns of the practice. Introduction to medical documentation with emphasis in problem identification and solution.

**PHTH331** (1.5)

***Therapeutic Modalities I***

Hydrotherapy, thermal agents, wound care, and massage: basic principles, physiologic effects, indications, and contraindications. Corequisite: PHTH341.

**PHTH332** (1.5)

***Therapeutic Modalities II***

Electrotherapy and mechanotherapy (traction), physical principles, methodologies, physiological effects, indications and contraindications, application and usage of equipment, and treatment rationale. Corequisite: PHTH342.

**PHTH334** (1)

***Therapeutic Procedures Laboratory***

Clinical application in utilizing basic physical therapy care including patient positioning, transfer and transport techniques, selection and use of wheelchairs and other ambulatory aids, vital sign deter-

mination, ascetic techniques, basic wound care, and blood-borne pathogens. Corequisite: PHTH324.

**PHTH341** (1)

***Therapeutic Modalities I Laboratory***

Techniques of hydrotherapy, thermal agents, wound care, and massage. Supervised practicum includes patient positioning and application of the therapy to obtain desired physiological response. Corequisite: PHTH331.

**PHTH342** (1)

***Therapeutic Modalities II Laboratory***

Specific electrotherapy and mechanotherapy treatment applications, use of equipment and assessment of physiological responses. Corequisite: PHTH332.

**PHTH346** (2.5)

***Medical Physiology***

Medical approach to the study of normal human body functions as related to individual and combined activities of selected organs and systems. Prerequisites: PTH317 and 327.

**PHTH351** (2)

***Kinesiology I***

The study of human movement including an introduction to the basic concepts of biomechanics with an emphasis on human joint/muscle structures and functions. Prerequisites: PHTH317 and 327. Corequisite: PHTH352.

**PHTH352** (1)

***Kinesiology I Laboratory***

Surface location for specific underlying muscle and bone structures are identified. Basic evaluation procedures for joint motion and limb measurements including goniometry, volumetric measurements, girth, palpation, and introduction accessory to joint movement. Prerequisites: PHTH317 and PHTH327. Corequisite: PHTH351.

**PHTH353** (1.5)

***Kinesiology II***

A continuation of PHTH351 focusing on biomechanics, body mechanics, normal gait analysis, and an introduction to pathological gait analysis. Prerequisites: PHTH351 and 352. Corequisite: PHTH354.

**PHTH354** (1)

***Kinesiology II Laboratory***

A continuation of PHTH352 focusing on procedures for testing muscle strength, normal gait analysis, and an introduction to pathological gait analysis. Prerequisites: PHTH351 and 352. Corequisite: PHTH353.

**PHTH360** (1-4)

***Topics in \_\_\_\_\_***

Selected topics in physical therapy. Permission of department chair required. Repeatable. Specific prerequisites may be required for some subject areas.

**PHTH361** (1.5)

***Pediatrics I***

An overview of embryological development followed by normal infant/child development to 5 years of age with an emphasis on motor development. Students evaluate infants and children with commonly used tests that address various developmental domains. Corequisite: PHTH362.

- PHTH362** (1)  
*Pediatrics I Laboratory*  
Practice in various specific tests used in the physical therapy evaluation of the infant/child that address different developmental domains. Corequisite: PHTH361.
- PHTH363** (1)  
*Pediatrics II*  
Description of various pediatric pathologies encountered in physical therapy with appropriate corresponding evaluation and treatment approaches. Normal and abnormal motor development is contrasted. Prerequisite: PHTH361 and 362. Corequisite: PHTH364.
- PHTH364** (1)  
*Pediatrics II Laboratory*  
Practice in the special techniques required in evaluation and treatment of pediatric patients diagnosed with selected pathologies. Introduces current treatment approaches, such as Neuro Developmental Treatment (NDT) and others, with their effects on treatment goals. Prerequisites: PHTH361 and 362. Corequisite: PHTH363.
- PHTH414, 415** (1.5,1.5)  
*Clinical Practicum I, II*  
Practice of the knowledge and skills developed in the classroom and lab in a patient-care setting. Each practicum consists of 3 weeks full-time physical therapy experience in clinical facilities affiliated with the university. Repeatable.
- PHTH421** ◆ (1.5)  
*Orthopedic Procedures I*  
Presentation of fundamental physical therapy knowledge in evaluating and treating a patient with both acute and chronic conditions of the extremity joints. Corequisite: PHTH431.
- PHTH422** ◆ (1.5)  
*Orthopedic Procedures II*  
Presentation of fundamental physical therapy knowledge and evaluation techniques in pathology of the cervical, thoracic, and lumbar spine. Prerequisites: PHTH421 and 431. Corequisite: PHTH432.
- PHTH423** ◆ (1.5)  
*Orthopedic Procedures III*  
Presentation of information regarding orthopedic pathology of the cervical, thoracic, and lumbar spine with emphasis on treatment techniques for the different pathologies from a physician and physical therapist's perspective. Prerequisites: PHTH422 and 432. Corequisite: PHTH433.
- PHTH426** ◆ (1.5)  
*Survey of Neurophysiology*  
Readings in the recent neurophysiological research literature with reports on scientific findings. Application of the materials studied to the treatment of patients with neurological disorders.
- PHTH431** ◆ (1)  
*Orthopedic Procedures I Laboratory*  
Designed for practice of the special techniques to evaluate and treat acute and chronic orthopedic pathologies of the extremity joints. Corequisite: PHTH421.
- PHTH432** ◆ (1)  
*Orthopedic Procedures II Laboratory*  
Designed for practice of the special techniques required to evaluate acute and chronic orthopedic pathologies of the cervical, thoracic, and lumbar spine. Prerequisites: PHTH421 and 431. Corequisite: PHTH422.
- PHTH433** ◆ (1)  
*Orthopedic Procedures III Laboratory*  
Designed for practice of the special techniques required to treat acute and chronic orthopedic pathologies of the cervical, thoracic, and lumbar spine. Prerequisites: PHTH422 and 432. Corequisite: PHTH423.
- PHTH441, 442, 443** (1.5, 1.5, 1.5)  
*Medical Diseases*  
Sequence studying disease processes affecting major body systems and the resulting anatomical and pathophysiological changes. Clinical presentations and pharmacological treatment of patients with those disease processes considered.
- PHTH447** ◆ (2)  
*Neuroanatomy*  
Basic anatomy and functions of the central and peripheral nervous systems and their related structures. Studies specific pathways of the central and peripheral nervous systems and takes a detailed look at each of the 12 pairs of cranial nerves. Prerequisite: PHTH317. Corequisite: PHTH457.
- PHTH448** (1.5)  
*Neuroscience I*  
Basic physiological and neurophysiological mechanisms specific to nervous system dysfunction. Clinical concepts in appropriate treatment of conditions affecting the nervous system, such as spinal cord injury, head injury, stroke, and selected peripheral pathologies. Emphasis on comparing and contrasting facilitation techniques. Corequisite: PHTH458.
- PHTH449** ◆ (1.5)  
*Neuroscience II*  
Same as PHTH448 with an emphasis on clinical applications. Prerequisites: PHTH448 and 458. Corequisite: PHTH459.
- PHTH456** ◆ (1)  
*Applied Physiology Laboratory*  
Practical demonstration and experience with metabolic responses to exercise, testing procedures, exercise prescription, and experiment design. Corequisite: PHTH446.
- PHTH457** ◆ (1)  
*Neuroanatomy Laboratory*  
Study of prosected central and peripheral nervous tissues, models, and charts. Corequisite: PHTH447.
- PHTH458** (1)  
*Neuroscience I Laboratory*  
Clinical application, rehabilitation practice, and techniques applied to basic physiological and neurophysiological mechanisms specific to nervous system dysfunction. Clinical treatment of conditions affecting the nervous system, such as spinal cord injury, head injury, stroke, and selected peripheral pathologies. Emphasis on comparing and contrasting facilitation techniques. Corequisite: PHTH448.
- PHTH459** ◆ (1)  
*Neuroscience II Laboratory*  
Continuation of PHTH458. Prerequisites: PHTH448 and 458. Corequisite: PHTH449.

- PHTH466** ♦ (1.5)  
*General Medicine*  
Clinical techniques applied to the evaluation, treatment, and discharge planning of patients in general medical and acute-care settings. Emphasis on physical therapy intervention with relevant factors, management of pain and physical complications during medical treatment, and evaluation and treatment of special populations including wound and burn care. Corequisite: PHTH476.
- PHTH469** ♦ (1.5)  
*Applications of Educational Theory in Physical Therapy*  
Examines and applies educational theory to skills used by the physical therapist in the classroom, community, and clinical facility. Topics include the educational role of the physical therapist, the learning process, the taxonomies of learning, learning styles, modality strengths, multiple intelligences, literacy levels, instructional technology, and teaching strategies.
- PHTH470** ♦ (1)  
*Clinical Decision Making*  
Applications of acquired physical therapy knowledge to patient situations. Assessment of all factors contributing to the patient. Appropriate patient treatment and management protocols are designed and evaluated.
- PHTH471, 472, 473** ♦ (1.5, 1.5, 1.5)  
*Clinical Medicine I, II, III*  
Medical lectures covering selected topics in the fields of orthopedics, neurology, and cardiopulmonary medicine. PHTH473 requires concurrent enrollment in PHTH483.
- PHTH476** (1)  
*General Medicine Laboratory*  
Practice in evaluations modified for the acute-care environment. Applications include home- and work-place evaluation for architectural barriers, functional evaluation tools, casting, and modification of treatments for acute care including goal setting and note writing. Corequisite: PHTH466.
- PHTH483** ♦ (1)  
*Clinical Medicine III Laboratory*  
Experience in cardiopulmonary medicine. Corequisite: PHTH473.
- PHTH486** ♦ (1.5)  
*Therapeutic Appliances*  
Prosthetic management of upper-and lower-limb amputee, orthotic management of patients with upper-limb disabilities, and application/management of orthotic-traction devices. Corequisite: PHTH496.
- PHTH495** (1-4)  
*Independent Study/Readings/Research/Projects*  
Permission of department chair required prior to registration for all independent work. Repeatable to 8 credits.
- PHTH496** ♦ (1)  
*Therapeutic Appliances Laboratory*  
Designed for 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 orthopedic traction, wheelchair modifications, miscellaneous ortho/rehab apparatus, and other assistive devices included. Corequisite: PHTH486.
- PHTH498** ♦ (1)  
*Research Design*  
Preparation and development of graduate research project proposal through exploration of a variety of approaches to research. Statement of the research problem, review of the literature, precise methodology, and ethical consideration in human subject research.
- PHTH509** (1.5)  
*Applied Clinical Biomechanics*  
Advanced course to enhance the understanding of the role of biomechanics in orthopedic injury causation and rehabilitation, with particular focus on how anatomic structures react in an isolated and integrated fashion when placed under the influence of forces in both a static and dynamic environment. Corequisite: PHTH519.
- PHTH519** (1)  
*Applied Clinical Biomechanics Laboratory*  
Advanced practice and application of biomechanics principles in orthopedic injury causation and rehabilitation with particular focus on how anatomic structures react in an isolated and integrated fashion when placed under the influence of focus in both a static and dynamic environment. Corequisite: PHTH509.
- PHTH520** (2)  
*Geriatrics*  
Study of the unique characteristics of the geriatric patient and special needs in evaluation, program design, and treatment.
- PHTH525** (2.5)  
*Health Administration*  
Application of management practices and theory to the modern acute-care facility. Study of the organizational structures, operations, and financing of healthcare delivery institutions. Examination of the organization and interrelationship of professional and support elements in the health care setting: regulation and accreditation, labor relations, community relations, and financial management.
- PHTH528** (1)  
*Christian Finance Seminar*  
Basic principles of stewardship as taught in the Bible in contrast with those taught and practiced by the world. Includes elements of personal and family budgets and investments and how to create and use them.
- PHTH534** (1.5)  
*Research Methods and Statistics*  
Methods of research applied to medical science: critiquing scientific articles, defining and delineating a problem, writing hypotheses, designing the research to provide data to test hypotheses. Fundamental procedures in collecting, summarizing, presenting, analyzing, and interpreting statistical data. Statistical tests applicable to medical specialities. Repeatable. Corequisite: PHTH544.
- PHTH536** (2)  
*Psychology of the Physically Impaired*  
Psychological responses to illness and disability. Interpersonal relationships between the therapist, the family, and the patient associated with incapacity, pain, grief, and dying. Methods for handling these responses in clinical situations. Common psychiatric disorders covered with their clinical diagnosis, treatment regimes, and projected outcomes. A seminar approach to professional responsibilities for health care.

- PHTH538** (1.5)  
*Advanced Neuro Techniques*  
Advanced education in theory and clinical practice in the treatment of neurological dysfunction. Theories and clinical areas covered may include Neuro Developmental Technique (NDT), Motor Relearning Program (MRP), and other selected approaches. Focuses primarily on helping the student achieve advanced skills in transition from theory to clinical practice. Corequisite: PHTH548.
- PHTH544** (1)  
*Research Methods and Statistics Laboratory*  
Constructing research designs for specific hypotheses. 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. Repeatable. Corequisite: PHTH534.
- PHTH548** (1)  
*Advanced Neuro Techniques Laboratory*  
Clinical application, rehabilitation practice, and techniques applied to advanced clinical practice in the treatment of neurological dysfunction. Theories and clinical areas covered may include Neuro Developmental Technique (NDT), Motor Relearning Program (MRP), and other selected approaches. Corequisite: PHTH538.
- PHTH551, 552, 553** (4, 4, 4)  
*Clinical Affiliation, I, II, III*  
Advanced full-time clinical experience for 8 weeks each in a variety of professional practice settings. One of the 8-week affiliations must be in an inpatient setting. Thirty-six to forty hours per week.
- PHTH556** (1.5)  
*Pediatric Physical Therapy*  
Evaluation and treatment of pediatric patients. Corequisite: PHTH566.
- PHTH559** (1.5)  
*Sports Medicine and Advanced Orthopedics*  
Advanced understanding of orthopedic pathology of the spine and extremity joints, with attention to athletic injuries of these areas. Measurements covered include the pre-participation physical exam, designing conditioning programs, taping, equipment fitting, advanced first aid for evaluating and treating field injuries, and other selected orthopedic pathology. Corequisite: PHTH569.
- PHTH566** (1)  
*Pediatric Physical Therapy Laboratory*  
Practice and application of skills required in working with orthopedic and neurologically involved pediatric patients as well as pediatric patients that show developmental risk factors and/or delays. Corequisite: PHTH556.
- PHTH569** \$ (1)  
*Sports Medicine and Advanced Orthopedics Laboratory*  
Practice in advanced evaluation and treatment procedures for orthopedic pathology with special emphasis on athletic injuries. Practice of different exercise regimens and taping techniques. Corequisite: PHTH559.
- PHTH575** (1.5)  
*Biomedical Ethical Issues*  
Contemporary ethical issues are examined, including the relationships between peers, superiors, subordinates, institutions, clients, and patients. Issues are illustrated with real-life cases and related to Christian biblical presuppositions.
- PHTH585** (1.5)  
*Industrial Medicine*  
Gives a broad overview of occupational medicine with emphasis on evaluation and treatment procedures for industrial rehabilitation. An instructional block included on the prevention of work-related injuries with an evaluation of the workplace and the development of appropriate job descriptions. Corequisite: PHTH595.
- PHTH588** (1)  
*Professional Compendium*  
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 family, employer, and community in the expanding physical therapy profession.
- PHTH589** (1-2)  
*Professional Seminar*  
Weekly sessions in which students present and discuss formal case studies from clinical education experiences, including one-day modules on various topics with contemporary relevance.
- PHTH590** (1-4)  
*Topics in \_\_\_\_\_*  
Selected topics in physical therapy. Permission of department chair required. Repeatable. Specific prerequisites may be required for some subject areas.
- PHTH595** (1)  
*Industrial Medicine Laboratory*  
Observation, demonstration, and practice in the evaluation, treatment, and patient instruction procedures relating to occupational medicine. Corequisite: PHTH585.
- PHTH607** (1.5)  
*Women's Health*  
An advanced understanding of issues relating to the physical therapy assessment and intervention of women's health concerns. Clinical areas covered include pregnancy and childbirth, menopause, post-mastectomy and hysterectomy rehabilitation. Corequisite: PHTH617.
- PHTH615** (1.5)  
*Complementary and Aquatic Therapies*  
An overview of complementary therapies focusing on evaluation and treatment, and advanced aquatic therapy program design and intervention. Corequisite: PHTH625.
- PHTH617** (1)  
*Women's Health Laboratory*  
Advanced practice and application of clinical skills required in the physical therapy assessment and intervention of women's health concerns. Corequisite: PHTH607.
- PHTH625** (1)  
*Complementary and Aquatic Therapies Laboratory*  
Designed for the clinical application and practice of special techniques in complementary and aquatic therapies. Corequisite: PHTH615.
- PHTH648** (1-4)  
*Workshop*

- PHTH690** (1-4)  
*Independent Study*  
Individualized study and/or research in a specialized area under the guidance of an instructor. Permission from the department chair required prior to registration. Repeatable to 8 credits.
- PHTH698** (1-2)  
*Research Project (topic)*  
Development of a physical therapy related research topic, thesis, and oral presentation.  
Summer: Provides students with guidelines and supervision for data collection and identification of appropriate statistical analysis procedures.  
Winter: Provides students with guidelines and supervision for the oral research presentation and the completion of the written thesis.
- MPT PROGRAM**  
Dayton, Ohio
- PHTH505** (4)  
*Functional Physiology*  
A small group, problem-based learning course which focuses on the study of human physiological function of the major organ systems including clinical manifestations associated with pathophysiological conditions.
- PHTH506** (1.5)  
*Professional Seminar I: Health Care*  
A comparative overview of healthcare systems and the role of the physical therapy profession. Students are introduced to the APTA, the *Guide to Physical Therapist Practice* and professional behaviors. Learning styles are discussed as they relate to clinical practice and to the student's personal and professional development
- PHTH508** (1.5)  
*Professional Seminar II: Clinical Practice*  
Introduction to clinical practice. Students learn professional communication skills, including documentation and the medical record. Additional topics are: Personnel supervision, scheduling, cost of service delivery and ethical and legal issues such as sexual harassment.
- PHTH510** (7)  
*Anatomy and Movement Science I*  
Comprehensive lecture/lab course which integrates learning of anatomy, kinesiology, biomechanics and patient history and examination. Students will dissect the extremities and focus on development of clinical examination and decision making skills that are based upon application of basic and clinical science principles. Concepts of exercise and movement dysfunction are presented.
- PHTH515** (3)  
*Anatomy and Movement Science II*  
Continuation of PHTH510. Students will dissect the head, neck and trunk and continue their development of clinical examination and decision making skills. Increased emphasis is placed upon the development of clinical palpation and observation skills and the application of therapeutic exercise interventions.
- PHTH518** (4)  
*Neuroscience*  
Comprehensive course, including labs, covering neuroanatomy and physiology of the central, peripheral and autonomic nervous systems as they pertain to normal somatic function. Basic disease families are introduced.
- PHTH540** (2.5)  
*Clinical Science*  
Comprehensive lab intensive course on thermotherapy and cryotherapy procedures. Problem-solving approach to clinical decision making is integrated into the application of hydrotherapy, aquatic therapy, superficial and deep heat modalities, and cold modalities. Students are also introduced to electrotherapy.
- PHTH546** (2)  
*Maturation Science*  
Comprehensive lecture/lab course which is designed to examine human development and maturation. Maturation influences on therapeutic intervention are presented while students learn clinical examination and reasoning skills required for physical therapy intervention throughout the life span. Students are introduced to congenital developmental and age-related pathologies.
- PHTH606** (1)  
*Professional Seminar III: Business Management*  
Utilizes small group problem-based learning to teach principles of business, administration and marketing necessary to manage a physical therapy clinic or practice. Topics include management styles, policy making, team building, financial issues, marketing strategies and continuous quality improvement.
- PHTH608** (1)  
*Professional Seminar IV: Professional Assessment & Development*  
Seminar course designed to help each student formulate strategies for professional assessment and development post-graduation. Topics include professional values and responsibilities, expanding your professional options, continuing education, specialty certification and advanced degrees. Each student participates in a comprehensive program evaluation and does a formal presentation of the graduate project.
- PHTH651** (3)  
*Clinical Rotation I: General Medicine*  
A 6-week clinical rotation in general medicine to provide full-time clinical exposure, allowing students to integrate current knowledge and training with supervised patient care. Emphasis on continued development of clinical reasoning along with identification and utilization of appropriate clinical resources.
- PHTH652** (3.5)  
*Clinical Rotation II: Neuro Rehab*  
A 7-week clinical rotation in rehab provides full-time clinical exposure, allowing students to integrate current knowledge and training with supervised patient care. Emphasis on the continued development of clinical skills and reasoning along with the development of interpersonal skills as a member of the health care team.
- PHTH653** (4)  
*Clinical Rotation III: Orthopedics/Sports Medicine*  
An 8-week clinical rotation in orthopedics/sports medicine providing full-time clinical exposure and allowing students to integrate current knowledge and training with supervised patient care. Emphasis on continued development of clinical skills and reasoning with increasing responsibility for independent decision making and clinical interaction.
- PHTH654** (5)  
*Clinical Rotation IV*  
The final 10-week clinical rotation allows students to continue developing clinical skills and reasoning in preparation for entry-

level practice. Increasing independence in clinical practice is expected with increased responsibilities in areas of program development and implementation, administration, and clinical management including staff supervision.

**PHTH661 (2.5)**

***Clinical Pathology: General Medicine***

Small group, problem-based learning course utilizing general medical, acute care, and postoperative patient case scenarios or pathologies to facilitate the integration of prior knowledge with new learning. Students review and apply basic and clinical science concepts to each case, formulating appropriate physical therapy examination and intervention strategies. Corequisites: PHTH671 and 681.

**PHTH662 (3)**

***Clinical Pathology: Neurology I***

Small group, problem-based learning course utilizing various neurological clinical cases to facilitate the integration of previous knowledge with new learning. Basic and clinical science principles are used to formulate appropriate examination and intervention strategies for the patient with neurological deficits. Corequisites: PHTH672, 682, and 692.

**PHTH663 (1.5)**

***Clinical Pathology: Neurology II***

Small group, problem-based learning course utilizing various pediatric clinical cases to facilitate the integration of previous knowledge with new learning. Basic and clinical science principles are used to formulate appropriate assessment and intervention strategies for pediatric patients. Corequisites: PHTH673, 683, and 693.

**PHTH664 (2.5)**

***Clinical Pathology: Orthopedics I***

Small group, problem-based learning course utilizing various orthopedic clinical cases to facilitate the integration of previous knowledge with new learning. Clinical reasoning and decision making skills are developed as they relate to physical therapy examination and intervention strategies. Corequisites: PHTH674 and 684.

**PHTH665 (1.5)**

***Clinical Pathology: Orthopedics II***

Small group, problem-based learning course utilizing patient case scenarios dealing with differential diagnosis and management of complex orthopedic pathologies to facilitate the integration of previous knowledge with new learning. Corequisites: PHTH675 and 685.

**PHTH671 (1.5)**

***Clinical Skills Laboratory: General Medicine***

Lab course designed to develop clinical skill and reasoning as it relates to physical therapy care and management of the patient with acute medical and postoperative pathology. Students learn physical examination tests and measures along with therapeutic interventions including electrotherapy modalities appropriate for this population. Corequisites: PHTH661 and 681.

**PHTH672 (2)**

***Clinical Skills Laboratory: Neurology I***

Lab course designed to develop clinical skill and reasoning as it relates to physical therapy care and management of the patient with neurological pathology. Students learn physical examination tests and measures along with therapeutic interventions appropriate for this population. Corequisites: PHTH662, 682, and 692.

**PHTH673 (1)**

***Clinical Skills Laboratory: Neurology II***

Lab course designed to facilitate skill acquisition along with clinical reasoning and decision making as it relates to the physical therapy care and management of the pediatric patient. Students learn physical examination tests and measures along with therapeutic interventions appropriate for this population. Special consideration for patient/family needs and education. Corequisites: PHTH663, 683, and 693.

**PHTH674 (1.5)**

***Clinical Skills Laboratory: Orthopedics I***

Lab course designed to facilitate skill acquisition along with clinical reasoning and decision making as it relates to the physical therapy care and management of the patient with orthopedic pathology. Students learn physical examination tests and measures along with therapeutic interventions including electrotherapy modalities appropriate for this population. Corequisites: PHTH664 and 684.

**PHTH675 (1.5)**

***Clinical Skills Laboratory: Orthopedics II***

Lab course designed to facilitate skill acquisition along with clinical reasoning and decision making as it relates to the physical therapy care and management of orthopedic patients with complex musculoskeletal pathology and dysfunction. Students learn physical examination tests and measures along with therapeutic interventions appropriate for this population. Special consideration for patient/family needs and education is discussed. Corequisites: PHTH665 and 685.

**PHTH681 (2)**

***Clinical Issues Seminar: General Medicine***

Focused-topic study related to physical therapy management of the general medical and postoperative patients. Topics include diabetes, wound care, universal precautions, medical diagnostics, amputees, arthroplasty, pharmacology, durable medical equipment, and treatment of patients with a terminal illness. Corequisites: PHTH661 and 671.

**PHTH682 (2)**

***Clinical Issues Seminar: Neurology I***

Focused-topic study related to physical therapy management of the patient with neurological dysfunction. Topics include: rehabilitation team interaction, psychosocial and socioeconomic issues, motor learning and motor control and neuroplasticity. Corequisites: PHTH662, 672, and 692.

**PHTH683 (1)**

***Clinical Issues Seminar: Neurology II***

Focused-topic study related to physical therapy management of the pediatric patient. Topics include treatment within a variety of settings including school-based, hospital-based, private practice, and home care; psychosocial issues relating to the patient and family; funding; documentation; and pharmacological management. Corequisites: PHTH663, 683, and 693.

**PHTH684 (2)**

***Clinical Issues Seminar: Orthopedics I***

Focused-topic study related to physical therapy management of the orthopedic patient. Topics include DME, instrumented ligament testing, differential diagnosis, physical principles and biomechanics applied to therapeutic exercise and function, medical diagnostics, surgery and postoperative care, and gait analysis. Corequisites: PHTH664 and 674.

- PHTH685** (2)  
*Clinical Issues Seminar: Orthopedics II*  
Focused-topic study related to physical therapy management of the complex orthopedic patient with select axial musculoskeletal pathologies. Topics includes chronic pain management, medical diagnostics, surgical intervention for the spine, differential diagnosis, and age-related pathologies. Corequisites: PHTH665 and 675.
- PHTH687** (1.5)  
*Advanced Therapy Workshop*  
Concentrated instruction in advanced physical therapy patient care. Topics include cardiopulmonary rehabilitation, women's health, advanced manual therapy strategies, advanced electrotherapeutics and advanced handling techniques.
- PHTH688** (2.5)  
*Advanced Clinical Seminar*  
Seminar/discussion on issues related to physical therapy care and the profession. Topics include preventive and wellness programs, physical therapy consultation, burn and wound care management, industrial rehabilitation and sports medicine.
- PHTH691** (2)  
*Research I*  
Introduction to research methods and design; students develop critical reasoning skills necessary to read and evaluate current research literature. Issues related to sampling, control, validity, and reliability. Several parametric statistical procedures and the research proposal process.
- PHTH692** (1)  
*Research II*  
A continuation of PHTH691; focuses on student identification and selection of a research proposal topic. Advanced statistical analysis discussed; also informed consent, writing techniques, funding acquisition, and presentation of findings. Corequisites: PHTH662, 672, 682.
- PHTH693** (1)  
*Research III*  
Research proposal review, revision, and presentation. Students work with the research coordinator and individual faculty research advisors in preparation for completion of the research proposal document.
- POST-PROFESSIONAL PROGRAMS**
- PHTH507** (2.5)  
*Functional Anatomy/Neuroanatomy*  
A review of cadaver anatomy with corresponding lectures on the main functional muscle groups of the extremities and back. The spine, upper and lower extremity joints and soft tissues are covered. In addition, neuroanatomy relevant to physical therapy and sports medicine are discussed.
- PHTH529** (2.5)  
*Education Methods and Materials*  
Examines and applies education theory to skills used by the healthcare provider in the classroom, community, and clinical facility. Topics include the educational role of the healthcare provider, the learning process, the taxonomies of learning, learning styles, modality strengths, multiple intelligences, literacy levels, instructional technology, and teaching strategies.
- PHTH531** (2.5)  
*NAIOMT Level I: Introduction to Fundamentals of Orthopedic Manual Therapy and Differential Diagnosis*  
Appropriate skills in basic and objective selective tissue examination necessary for generating a provisional differential diagnosis of spinal dysfunction. Signs, symptoms, pathology, and management of common spinal pathologies are reviewed. Selective tissue tensioning techniques for the peripheral joints are introduced. Cyriax's principles are presented.
- PHTH532** (2.5)  
*NAIOMT Level II: Intermediate Upper Quadrant*  
A comprehensive biomechanical and anatomical review of the upper thoracic, upper and lower cervical spine, shoulder, elbow, wrist, and hand. Specific biomechanical assessment of each area is taught along with appropriate and effective treatment techniques for common injuries and mechanical dysfunctions.
- PHTH533** (2.5)  
*NAIOMT Level II: Intermediate Lower Quadrant*  
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 mechanical dysfunctions.
- PHTH539** (2.5)  
*Clinical Research*  
Presents basic research concepts in a format appropriate to both consumers of research literature and students planning to initiate research projects. Statistics are covered in a conceptual manner. Student activities include a literature review, critiquing research articles, and developing a research proposal ready for submission to the Human Subjects Review Board.
- PHTH541** (2.5)  
*NAIOMT Level III: Advanced Upper Quadrant*  
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 causal or contributory. Advanced techniques are demonstrated along with new material on temporo-mandibular-joint material and peripheral manipulation skills. Prerequisite: PHTH532.
- PHTH542** (2.5)  
*NAIOMT Level III: Advanced Lower Quadrant*  
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 pelvic joints. Discusses the integration of examination and treatment techniques. Prerequisite: PHTH533.
- PHTH543** (2.5)  
*NAIOMT Level IV: High Velocity Manipulation*  
Instructs the student on the indications and contraindications, as well as the safe and effective application of spinal, pelvic, and costal manipulation techniques. Prerequisites: PHTH542 and 543.
- PHTH549** (2.5)  
*Principles of Contemporary Leadership*  
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.

**PHTH550 (2.5)*****Clinical Application of Biomechanics***

An advanced course, including practice and application, to enhance the understanding of the role of biomechanics in orthopedic injury causation and rehabilitation. Focuses on how anatomic structures react in an isolated and integrated fashion when placed under the influence of forces in both a static and dynamic environment.

**PHTH561 (1.5)*****Myofascial Manipulation: Level I***

Introduces osteopathic concepts/terminology, myofascial anatomy, theories regarding the neurophysiology and biomechanics of release techniques, the difference between direct and indirect techniques, with focus on direct shearing and deep direct techniques. Skills include total body gait analysis, palpation for myofascial binds/restrictions, and osteopathic shearing and rolling structural integration techniques.

**PHTH562 (1.5)*****Myofascial Manipulation: Level II***

Builds on Level I, progressing into higher level myofascial loading to treat joint dysfunctions; introduction to craniosacral therapy concepts of transverse diaphragms and dural tube treatment, localized joint unwinding, and how to initiate the release response with both tri-planar loading or unloading. Total body dynamic assessment is reinforced. Prerequisite: PHTH561.

**PHTH571 (1.5)*****Soft Tissue Management: Level I***

Introduces the theory and clinical application of indirect techniques, with emphasis on practical use of strain-counterstrain (SCS) in combination with neuromotor re-education 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.

**PHTH572 (1.5)*****Soft Tissue Management: Level 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 re-education exercises and options, and identifying and correcting vector(s) of traumatic injury. Prerequisite: PHTH571.

**PHTH577 (2)*****Sports Physical Therapy***

Understanding physical therapy management of athletes. Topics unique to sports medicine include: pre-preparation 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.

**PHTH578 (2)*****Industrial Physical Therapy***

Investigates orthopedic and sports physical therapy principles applied to the industrial setting. Includes applied ergonomics, work conditioning and hardening, pre-employment screening, industrial injury prevention, objective functional capacity testing, inappropriate illness behavior, the industrial medico legal system, industrial spinal patient rehabilitation, and a practical ergonomic/lifting lab session. Develops clinical competence in evaluation techniques and intervention procedures.

**PHTH580 (2)*****Professional Ethics***

Basic ethical theory and methods and their place in the study of human behavior. Medical professional context and challenges of ethical behavior are examined including the relationships between peers, superiors, subordinates, and patients. Contemporary medical ethical issues are discussed and illustrated with actual cases and related to Christian biblical presuppositions.

**PHTH648 (1-4)*****Workshop*****POST-PROFESSIONAL DPT****PTH507 (3)*****Applied Clinical Anatomy & Biomechanics***

Lecture/lab course studying regional anatomy and biomechanics as they relate to normal movement and the potential development of movement dysfunctions. Correlations between pathomechanics, clinical presentation of pathology and decision making for therapeutic interventions will be drawn.

**PTH520 (2)*****Histology/Embryology***

Advanced histology and embryology as related to integumentary, musculoskeletal, pulmonary and neurological function.

**PTH525 (3)*****Clinical Science Intensive***

A small group problem-based learning course which utilizes clinical cases to review and study basic and clinical science concepts including; histology, physiology, pathophysiology, pathokinesiology and anatomy relevant for the physical therapist in patient care.

**PTH540 (3)*****Advanced Kinesiology***

A study of function and structure of the human body related to movement, with a particular focus on biomechanics. Includes how anatomic structures react in an isolated and integrated fashion when placed under the influence of forces in both a static and dynamic environment.

**PTH545 (3)*****Clinical Physiology***

The study of human physiological function of the major body systems with clinical application to musculoskeletal, cardiovascular, and pulmonary conditions.

**PTH549 (3)*****Principles of Contemporary Leadership***

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.

**PTH598 (1)*****PLA (Special Topic)***

PLA (Prior Learning Assessment) is a process which validates learning experiences that may have occurred outside traditional college/university academic programs. Requires a portfolio of evidence for demonstrating experience and competency justifies and determines the amount of credit granted. May be repeated for an additional 4 credits.

- PTH600** (2)  
*Healthcare Systems, Policies & Reimbursement*  
Discussion and analysis of historical and current trends in healthcare delivery and their impact on policy development. Application of management strategies and how healthcare practitioners can effect change.
- PTH605** (2)  
*Cultural Influences on Healthcare Delivery*  
Survey of ethnic and cultural diversity issues, focusing on the insight essential to effective healthcare delivery to individuals in minority ethnic groups and cultures. Incorporates communication and assessment skills necessary to positively effect the practitioner-patient interaction and enhance patient compliance.
- PTH615** (2.5)  
*Clinical Pharmacology*  
Develops a non-prescriptive knowledge of specific medications including indications, contraindications, precautions, adverse reactions, and dosage, especially as related to physiological effects of physical therapy interventions.
- PTH619** (2)  
*Educational Methods & Resources*  
Examines and applies relevant and effective teaching methods and resources to educate patients, family, care givers, staff, students, and other healthcare providers.
- PHTH629** (2)  
*Guide to Physical Therapist Practice*  
Introduction to the content of the *Guide to Physical Therapist Practice* and its multiple applications in the clinical setting: current terminology; justification for plan of care, documentation of goals and expected outcomes, the use of practice patterns, and the integration of the concepts of the disablement model into clinical practice.
- PTH630** (3)  
*Biostatistics & Research Design*  
Examines and applies appropriate research design and statistical methods relevant to healthcare research with emphasis on clinical practice. Integrated throughout the course, outcome research will be analyzed and related to evidence-based physical therapy practice.
- PTH646** (2)  
*Spirituality in Healthcare*  
A 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.
- PTH718** (3)  
*Clinical Screening & Differential Diagnosis*  
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 PT practice are addressed. Enhances professional communication with other healthcare practitioners included in the referral process.
- PTH730** (2.5)  
*Medical Diagnosis*  
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.
- PHTH736** (3)  
*Psychosocial Effects in Patients*  
An introduction to psychosocial responses to illness and disability, especially the interpersonal relationships between the therapist, the family and the patient. Common psychiatric disorders are discussed along with their clinical diagnosis, treatment regimes, projected outcomes and methods for handling these responses in clinical situations utilizing interviewing and counseling skills.
- PTH740** (2.5)  
*Evidence-based Practice*  
Applies the knowledge of prognosis as well as a theoretical framework to develop patient goals and functional outcomes. Sound clinical reasoning and decision-making during physical therapy intervention is based upon scientific evidence and established patient outcome studies.
- PTH750** (2)  
*Professional Communication & Consulting*  
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.
- PTH765** (1-2)  
*Ethical & Legal Issues in Healthcare*  
Contemporary ethical and legal issues are explored, including the relationships between peers, superiors, subordinates, institutions, and clients. Illustrations include actual cases and relate to Christian biblical presuppositions.
- ## DScPT PROGRAM
- PTH500** (2)  
*Doctoral Colloquium*  
A DScPT degree orientation which will include portfolio assessment, introduction to NAIOMT and development of the degree contract.
- PTH507** (3)  
*Applied Clinical Anatomy & Kinesiology*  
Lecture/lab course focusing on regional anatomy and movement biomechanics as they relate to the clinical presentation of specific orthopedic pathologies.
- PTH536** (3)  
*NAIOMT Level I: Introduction to Fundamentals of Orthopedic Manual Therapy & Differential Diagnosis*  
Appropriate skills in basic and objective selective tissue examination necessary for generating a provisional differential diagnosis of spinal dysfunction. Signs, symptoms, pathology, and management of common spinal pathologies are reviewed. Selective tissue tensioning techniques for the peripheral joints are introduced. Cyriax's principles are presented.

- PTH537** (3)  
**NAIOMT Level II: Intermediate Upper Quadrant**  
 A comprehensive biomechanical and anatomical review of the upper thoracic, upper and lower cervical spine, shoulder, elbow, wrist, and hand. Specific biomechanical assessment of each area is taught along with appropriate and effective treatment techniques for common injuries and mechanical dysfunctions.
- PTH538** (3)  
**NAIOMT Level II: Intermediate Lower Quadrant**  
 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.
- PTH540** (3)  
**Advanced Kinesiology**  
 A study of function and structure of the human body related to movement, with a particular focus on biomechanics. Includes how anatomic structures react in an isolated and integrated fashion when placed under the influence of forces in both a static and dynamic environment.
- PTH546** (3)  
**NAIOMT Level III: Advanced Upper Quadrant**  
 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)  
**NAIOMT Level III: Advanced Lower Quadrant**  
 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)  
**NAIOMT Level IV: High Velocity Manipulation**  
 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)  
**Principles of Contemporary Leadership**  
 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)  
**NAIOMT Supervised Clinical Practice**  
 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. These hours can be done all at one time or split up into two 30-hour blocks.
- PTH556** (2)  
**NAIOMT: Pelvic Girdle**  
 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)  
**NAIOMT: Thoracic Spine**  
 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)  
**NAIOMT: Post Motor Vehicle Accident Cervical Dysfunction**  
 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** (3)  
**Clinical Pharmacology**  
 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)  
**Sports Physical Therapy**  
 Understanding physical therapy management of athletes: topics unique to sports medicine include pre-paration 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.
- PTH619** (2)  
**Educational Methods and Resources**  
 Examines and applies appropriate research design and statistical methods relevant to healthcare research with emphasis on clinical practice. Integrated throughout the course, outcome research will be analyzed and related to evidence-based physical therapy practice.
- PTH628** (2)  
**Active Learning in Physical Therapy**  
 Introduction to teaching strategies which facilitate student engagement and ownership in the learning process, including problem-based learning. These strategies will be useful for classroom, tutorial, lab and continuing education instruction.
- PTH630** (3)  
**Biostatistics and Research Design**  
 Examines and applies appropriate research design and statistical methods relevant to healthcare research with emphasis on clinical practice. Integrated throughout the course, outcome research will be analyzed and related to evidence-based physical therapy practice.
- PTH631** (1.5)  
**Soft Tissue Management: Level I**  
 Introduces the theory and clinical application of indirect techniques, with emphasis on practical use of strain-counterstrain (SCS) in combination with neuromotor re-education 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)**

***Soft Tissue Management: Level II***

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

**PTH641 (2)**

***Diagnosis & Treatment of Movement Impairment Syndromes: Level I***

Lecture/lab course covers concepts and principles of movement system balance (MSB) theory and its relationship to alteration in neuromusculoskeletal function and movement impairments of the shoulder, trunk, hip, and knee. Discussion and demonstrations focus on examination methods to identify movement impairment syndromes, the importance and means of developing a precise therapeutic exercise program and correcting faculty posture and movement associated with functional activities.

**PTH642 (2)**

***Diagnosis & Treatment of Movement Impairment Syndromes: Level II/III Upper Quarter***

Lecture/lab course provides a review and update of concepts and principles of the MSB theory and its relationship to musculoskeletal pain syndromes. Designed to improve skill in performance of examination procedures, recognition of signs and symptoms of upper quarter movement (including shoulder and neck) impairment movement syndromes. Emphasizes selection and performance of corrective exercises based on results of the examination. Prerequisite: PTH641.

**PTH646 (2)**

***Spirituality in Healthcare***

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)**

***Independent Learning Contract***

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 (2)**

***Clinical Screening & Differential Diagnosis***

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)**

***Medical Diagnostics***

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 (2)**

***Evidence-based Practice & Decision Making***

Applies the knowledge of prognosis as well as a theoretical framework to develop patient goals and functional outcomes. Sound clinical reasoning and decision-making during physical therapy intervention is based upon scientific evidence and established patient outcome studies.

**PTH750 (2)**

***Professional Communication & Consulting***

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.

**PTH798 (4-6)**

***Capstone Experience (Topic)***

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.