

# PHYSICAL THERAPY (PTS)

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**PTS 601. Advanced Clinical Practice: Counterstrain 1. 1 Credit Hour.**

This seminar course will provide an in depth discussion of the history, physiologic rationale, and fundamentals of the Strain Counterstrain method of manual therapy. Newer concepts of facial science will also be explored. Counterstrain I will stress palpation skills as the foundation for any manual therapist and will teach advanced palpatory anatomy techniques. 30-50 Counterstrain techniques spanning the whole body and consisting of the musculoskeletal, neurovascular, and visceral systems will be taught through lecture, demonstration, and lab.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 602. LAGO Local Pro-Bono Clinic Elective. 1 Credit Hour.**

This course is designed to provide physical therapy students with an integrated clinical experience under the supervision of licensed physical therapist. The students work in a pro-bono clinic located at University of Miami Hospital. Students will have the opportunity to participate in the full spectrum of physical therapy care with a population of uninsured patients in need of a broad range of health care and health care education services. Students will have an opportunity to apply previously learned knowledge and skills as it applies to the needs assessed in the community for pro bono service. Health risk issues related to prevention will be assessed and physical therapy services applicable to the needs will be designed.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 603. Introduction to Principles of Orthotic Fabrication and Prescription. 1 Credit Hour.**

This seminar course is designed to introduce the art of custom orthotic making. We will explore the various categories within custom orthotics; static, dynamic, serial static, and static progressive. A comparison of the features of pre-fabricated orthoses vs. custom made will be made. The application of clinical reasoning to decision making will equip the Therapist with the necessary information to assist them when considering the orthotic options to achieve the best possible outcome for their patients.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 604. Rehabilitation Technology for Physical Therapists. 1 Credit Hour.**

This course will introduce current advancements in diagnostic and therapeutic equipment used by physical therapists in clinical practice. The emphasis will be on latest rehabilitation technology such as virtual reality, neural stimulation and rehabilitation robotics. Students will observe the equipment being used on patients, get a basic understanding of its operation and have an opportunity for hands-on learning.

**Components:** LEC.

**Grading:** CNC.

**Typically Offered:** Offered by Announcement Only.

**PTS 605. Physical Therapy Private Practice Management. 1 Credit Hour.**

Course focuses on establishing a private physical therapy practice, including initial development through marketing and management.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 606. Pelvic Health Physical Therapy: Clinical Presentations and Anatomic Review. 1 Credit Hour.**

In this seminar, we will examine common maladies involving the pelvis and pelvic musculature seen in physical therapy practice: coccyx/dynia, levator ani syndrome, pudendal neuralgia, and prostate-related dysfunctions and other pelvic pain. This information will enhance clinical correlation of the abdominal and pelvic dissection course that may be offered at another time. We will gain insight in recognition of dysfunction and treatment planning to address these clinical disorders.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 607. Physical Therapy for the Pregnant and Postpartum Client. 1 Credit Hour.**

Patients identifying as female make up at least 50% of patients in any given healthcare setting and have, at times, specific needs and consideration requiring physical therapy intervention. Drawing from your present knowledge base of physical therapy diagnosis and intervention, we will expand into women's health topics including pregnancy, exercise during pregnancy and postpartum dysfunction and the significance of estrogen across the lifespan. We will examine closely the relationships of abdomino-pelvic anatomy, including the muscles of the core and explore the impact of lifestyle/health choices on wellness of the woman during her childbearing years.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 608. Nutrition for Physical Therapists. 1 Credit Hour.**

A presentation of nutrition content that will benefit the professional skills of physical therapists.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 609. Advances in Amputee Rehabilitation and Prosthetic Technology. 1 Credit Hour.**

This course is designed to provide interested students with educational materials about amputations surgery, prosthetic technology and rehabilitation that will augment the information presented in other courses. A select faculty of experts have been invited to present on topics of interest that provide greater depth of knowledge for those physical therapy students who are interested in the field of prosthetics and amputee care. Students will be encouraged to actively participate during each presentation with thought provoking dialog regarding how technology, evidence-based rehabilitation and disciplines involved in prosthetic rehabilitation can work together as a team to generate a better than satisfactory outcome for people with limb loss.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 610. Introduction to Pilates - Gateway. 1 Credit Hour.**

This course provides in-depth instruction in the use of Pilates Mat to supplement physical therapy practice. This course covers the history of Pilates and Polestar education, biomechanics, and the many uses of Pilates in physical practices, as well as instruction in 18 Pilates mat exercises. Students learn to perform and teach the exercises and 4 unique class sequences.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 611. Advanced Clinical Practice: Topics in Pediatrics. 1 Credit Hour.**

The course will focus on advanced topics in pediatric physical therapy. Through lecture, seminar discussion and lab experiences, topics will include: typical and atypical development over the first year and examination and evidence-based intervention strategies used in early intervention strategies.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 612. Sports Physical Therapy. 1 Credit Hour.**

An overview of the general aspects of sports physical therapy practice will be provided. Topics will include the various settings, evaluations, interventions, and techniques involved in Sports physical therapy practice.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 613. Advanced Clinical Practice: Evaluation and Treatment of the Foot and Ankle. 1 Credit Hour.**

This course will review the anatomy, normal and abnormal kinesiology/biomechanics, pathology and imaging of the foot and ankle and discuss physical therapy evaluation and intervention based on evidence based practice. It will include an introduction to evaluation and negative casting for orthotics.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 614. Certified Strength and Conditioning Specialist Preparation (NSCA). 1 Credit Hour.**

Evaluation and exercise planning of athletes to help them achieve their maximum physical performance without incurring injury. Case studies, a problem-solving approach, and integration of previously learned material are emphasized. Classroom instruction, exercise performance, video analysis, and case studies are utilized.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 615. Advance Clinical Practice: Taping for the Orthopedic Population.. 1 Credit Hour.**

This seminar course is designed to introduce the participant to the concepts of taping for various musculoskeletal pathologies commonly seen in the athletic population. Athletic taping and kinesiotaping principles and uses in rehabilitation will be introduced. A lab component will allow participants to practice the various taping techniques demonstrated.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 616. Clinical Research I. 3 Credit Hours.**

This course provides a foundation for evidence based practice as a physical therapist. It presents the principles, concepts and basic skills required to identify, evaluate, create and apply research evidence to the practice of physical therapy. Topics covered include levels of research evidence, health/disability models, searching for research literature including electronic data bases hypothesis testing, critical review of research literature, measurement, statistical analysis, research design, sampling, bias, and statistical computing.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 617. Abdominal Anatomy. 1 Credit Hour.**

Course analyzes abdominal anatomy emphasizing structure and function. Cadaver dissection is included.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 618. Critical Care Physical Therapy. 1 Credit Hour.**

A review of the literature on physical therapy in the intensive care unit. Organizing and synthesizing information from the patient's medical record. Evaluation and treatment planning for patients in the intensive care unit. Review of standardized and validated measures for patients with critical illness. Case studies across a variety of patients with critical illness (i.e. medical, surgical, cardiac, neurological, and oncology) will be incorporated to reinforce didactic lecture.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 619. Pelvic Anatomy. 1 Credit Hour.**

Course analyzes the anatomy of the human pelvic area. Cadaver dissection is included.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 620. Spanish for Physical Therapists. 1 Credit Hour.**

This course is designed to familiarize the physical therapy student with different aspects of the Spanish speaking culture. This course is also designed to assist the student in developing the basic communication skills in Spanish needed in the clinical setting when working with Spanish speaking patients.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Summer.

**PTS 621. Advanced Topics in Neurologic Physical Therapy: Vestibular Rehabilitation. 1 Credit Hour.**

This course will expand on knowledge and skills developed in prior courses (Neuroscience, Neuro Examination, and Neurorehabilitation) to focus on the clinical management of an individual with a vestibular disorder from identification of dysfunction through comprehensive clinical management. Through lecture, seminar discussion, and lab experiences, topics will include: Comprehensive vestibular examination and evaluation, Clinical management and intervention strategies, Competency skills checklist, Implementation of treatment

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 623. Myofascial Release. 1 Credit Hour.**

Introduction to Myofascial Release technique in rehabilitation.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 624. Myofascial Release II. 1 Credit Hour.**

A follow up to the introductory course MFR I. This course focuses on a review of bioenergy followed by practice of release techniques for trunk, extremities and head and neck. Cranial techniques and rebounding are also taught.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 625. Introduction to Dry Needling Theory and Technique. 1 Credit Hour.**

Course introduces the participant to the concepts of dry needling, its neuro-functional principles, and its use in a physical therapy setting. Emphasis on comparing and contrasting dry needling to acupuncture, as well as the safety, indications and contraindications of dry needling. A lab component will allow participants to practice various introductory dry needling techniques.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 627. Gateway Pilates II. 1 Credit Hour.**

This two-day Pilates course will teach how to provide four new basic Pilates Mat classes. A total of 18 Gateway 2 preparatory exercises and original Pilates Mat exercises will be taught. The instructor will provide ample experiences for real time practice of each of the 4 Pilates Mat sequences, and will provide feedback to each participant pertaining to additional training and practice to become proficient teachers of the Gateway Introductory Mat work.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 629. Evaluation and Treatment of Spinal Dysfunctions I. 3 Credit Hours.**

This course provides an in-depth exploration of the evaluation and treatment of various dysfunctions of the spine. The lumbar and sacro-iliac regions will be explored. Thorough evaluation procedures will be emphasized as they relate to specific diagnosis. Treatment for the respective diagnoses will include therapeutic exercise, soft tissue stretching, and postural re-education.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 630. Foundations of Physical Therapy. 3 Credit Hours.**

Historical development, philosophical foundations and contemporary practice of a physical therapist as an educator, consultant, researcher, administrator, and model of healthy behaviors. Health as indicated by global fitness measures will be demonstrated and experienced. Medical terminology mastered.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 631. Gross Anatomy for Physical Therapy I. 3 Credit Hours.**

Gross anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 632. Gross Anatomy for Physical Therapy II. 3 Credit Hours.**

Gross Anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 633. Communication in Physical Therapy Practice. 3 Credit Hours.**

This class presents the theory and experiences designed to foster professional socialization in students so that they communicate with therapeutic presence in verbal, nonverbal, written, intentional and electronic communication. It incorporates both self awareness and emotional intelligence as therapeutic skills for practicing clinicians. It guides students in communicating accurately, sensitively, and assertively with patients, families, and colleagues and people from other cultures and backgrounds. Students will learn how to navigate patient/practitioner and interprofessional relationships in light of personal, institutional, and structural biases. Student awareness of one's ideas and feelings about one's self and others' values will be discussed. Ethical dilemma resolution, conflict resolution, assertiveness, humanistic care, motivational interviewing, and stress management skills are taught and discussed.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 640. Neuroscience I. 3 Credit Hours.**

This course will explore the human nervous system with an emphasis on the relationship between structure and function. The gross structures of the central and peripheral nervous systems will be discussed, and basic neurophysiological and neuropsychological constructs regarding the function of the nervous system will be explored. Particular emphasis is placed on the systems involved in human motor control and function, its assessment, and the basis for diagnosis and treatment selection by physical therapists.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 641. Neuroscience II. 3 Credit Hours.**

Basic neurophysiological and neuropsychological constructs regarding the function of the nervous system are explored. Analyses of normal systems are contrasted with abnormal systems. Particular emphasis is placed on the systems involved in human motor control and function, its assessment, and the basis for diagnosis and treatment selection by physical therapists.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 642. Biophysical Agents. 3 Credit Hours.**

This course presents the physiological rationale, indications, contraindications and the application of electrical modalities, including electrical stimulation, thermal modalities, sound modalities, compressive devices, mechanical machinery, and light therapy.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 643. Medical Pathology Seminar I. 1 Credit Hour.**

Lectures and seminar discussion on medical and surgical management of pathological conditions, with particular emphasis on musculoskeletal disorders.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 644. Medical Pathology Seminar II. 1 Credit Hour.**

Lectures and seminar discussion on pathological conditions with particular emphasis on neuromuscular and musculoskeletal disorders.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 645. Medical Pathology Seminar III. 1 Credit Hour.**

This course provides lectures and seminar discussion on medical and surgical management of pathological conditions, with particular emphasis on regenerative medicine, neuromuscular disorders and women's health.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 646. Medical Pathology Seminar IV. 1 Credit Hour.**

Lectures and seminar discussion of pathological conditions with particular emphasis on cardiorespiratory and pediatric disorders.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 650. Pharmacology. 2 Credit Hours.**

Basic principles of pharmacology and pharmacotherapeutics. Contemporary drug therapies and their effects on patients undergoing rehabilitation are discussed.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 670. Clinical Skills in Physical Therapy. 3 Credit Hours.**

This course is specifically designed to provide each student with the necessary and basic clinical skills to function within a variety of patient settings. Utilizing a combination of lecture and the associated co-requisite laboratory, this course will cover proper body mechanics, patient positioning and draping, massage, daily patient documentation, vital signs, range of motion, basic wheelchair management and measurement, bed mobility and transfers, tilt table benefits and management, ambulatory assistive devices and gait training with assistive devices.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 671. Therapeutic Physiology. 2 Credit Hours.**

This course will require the student to analyze and apply physiologic principles to promote optimal patient evaluation and management. A variety of tests and measures will be reviewed and will be integrated with specific physiologic principles in order for the student to better understand the role of therapeutic interventions for patients referred to physical therapy. The focus of the course will revolve around several related themes including (1) interpreting the cardiorespiratory response to exercise, (2) understanding energy production and regulation, (3) integrating the cardiovascular, pulmonary, and muscular systems to better understand and interpret cardiorespiratory function as well as energy production, regulation, and homeostasis, and (4) examining the effects of de-conditioning and re-conditioning using different forms of exercise for individuals who are healthy or diagnosed with a medical disorder.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 672. Clinical Kinesiology and Biomechanics. 3 Credit Hours.**

A study of musculoskeletal structure and function, physiological and biomechanical factors, and principles underlying the kinematics and kinetics of normal and abnormal human motion.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 674. Clinical Examination. 3 Credit Hours.**

This course will present the basic examination skills for patients with various diseases and dysfunctions of the neuromusculoskeletal system. The skills emphasized are patient interviewing, palpation, reflex/sensory testing, cranial nerve testing, coordination testing, manual muscle testing, goniometric measurement with assessment of end feels, upper and lower quarter screening, postural assessment, and documentation of findings.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 675. Clinical Decision Making I. 2 Credit Hours.**

This course presents components of physical therapist practice with an emphasis on evidence-based decision making related to interviewing patients, selecting appropriate tests and measures, arriving at a physical therapy diagnosis and developing a plan of care within the physical therapist's scope of practice. Documentation formats as they relate to clinical decision making are presented. The Physical Therapist Guide to Practice patient/client management model, International Classification of Function, and practice patterns are presented. The process of physical therapy diagnosis is presented. Students will be given an opportunity to practice with case studies.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 676. Medical Screening in Physical Therapy. 1 Credit Hour.**

This course presents content related to screening for medical conditions in order to make clinical decisions about appropriateness for physical therapy and need for medical referral for patients presenting for physical therapy management.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 695. Selected Topics in Physical Therapy. 1-3 Credit Hours.**

Topics in contemporary physical therapy clinical practice with focus on specialty areas such as neonatal pulmonary care, balance/vestibular dysfunction, geriatrics, pediatrics, obstetrics, and gynecology.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 706. Neurological Evaluation. 2 Credit Hours.**

Comprehensive evaluation of the patient with neurological dysfunction. Emphasis is placed on decision making, differential diagnosis, selection, and interpretation of examination components.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 708. Human Gait and Locomotion. 1 Credit Hour.**

This course is an in-depth study of the fundamental mechanisms of normal human gait and locomotion. Students will be instructed on the terminology, normal joint range of motion and muscle function of the lower limbs during gait. Mechanisms of observational and instrumented analyses of gait will be discussed. Identification of common gait deviations, using observational gait analysis skills, will be briefly discussed.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 710. Clinical Experience I. 2 Credit Hours.**

This is the first eight-week clinical experience following the fourth semester of didactic course work and is performed in an ambulatory/outpatient setting with emphasis on musculoskeletal diagnoses. During this experience the student concentrates on the clinical application of the basic examination, evaluation, diagnosis, prognosis, intervention and outcome assessment that they have learned thus far in the academic setting. The student is expected to demonstrate good documentation skills, good communication skills and to develop their professionalism according to the APTA Core Values and Code of Ethics expected of the professional physical therapist.

**Components:** CLN.

**Grading:** SUS.

**Typically Offered:** Fall.

**PTS 711. Clinical Experience II. 2 Credit Hours.**

This is the second eight-week clinical experience following the completion of all didactic course work. It is the first of three sequential and summative clinical experiences. This clinical experience can be completed in an ambulatory/outpatient setting, acute care hospital, and rehabilitation hospital or unit or specialty practice such as pediatrics, sports, or women's health. Even though this clinical experience is unique, it is part of a sequence in which professional development and growth is expected. During this experience the student concentrates on the clinical application of the patient/client management model. This includes the examination, evaluation, diagnosis, prognosis, and intervention and outcome assessment within the context of the clinical setting. The student is expected to demonstrate good documentation skills, good communication skills and to develop their professionalism according to the APTA Core Values and Code of Ethics expected of the professional physical therapist.

**Components:** CLN.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 714. Neurorehabilitation. 3 Credit Hours.**

Evidence-based practices in the treatment of individuals with neurological involvement are explored. Emphasis is placed upon the integration and application of theoretical constructs, prognostic indicators, examination and evaluation findings, and therapeutic intervention strategies utilized by physical therapists in neurological rehabilitation across disease course and practice settings.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 715. Acute Care Management of the Complex Patient. 3 Credit Hours.**

The course will instruct students on the management of individuals with complex pathology that has additional complex social and environmental factors. Emphasis will be placed on the principles of assessment, treatment, discharge planning, and referral in the Acute Care environment. Topics covered include: early mobilization in the ICU, management of patients with multiple lines, drains, and tubes, multiple trauma, cancer, hospice and palliative care, bariatrics, solid organ transplantation, patient safety, collaboration with healthcare team members, and use of acute care appropriate outcome measures. The course includes hands on transfer labs, patient evaluation and simulation experiences, and a practical examination on assessment and mobilization of a simulated complex patient.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 717. Clinical Research II. 3 Credit Hours.**

This course is a continuation of Clinical Research I that provides the student with continued guidance in the completion of the faculty led research project begun as part of Clinical Research I. A series of lectures also provide exposure to additional topics relevant to clinical research in Physical Therapy. Potential lecture topics include data analysis, design, error, philosophy of science, and research reporting.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 718. Physical Therapy Practice Management, Professional Issues and Advancement. 3 Credit Hours.**

This course provides an introduction into the many facets of administration in physical therapy. The course has three primary areas of exploration: physical therapy administration and practice management, the current healthcare environmental influences, and personal administration and career entry preparation. These focal points are selected to assist the new graduate physical therapist in navigating early career activities, opportunities and environments. An organizational perspective will be the dominant context for this course, but mention of entrepreneurial activities will be included during the course of discussion and may be explored as part of the group projects.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 720. Biomechanical Basis of Human Movement. 3 Credit Hours.**

A study of the basic biomechanical principles underlying the kinetics and kinematics of normal and abnormal human motion as well as the measurement of human movement.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.



**PTS 721. Measurement of Impairment and Function in Human Movement. 3 Credit Hours.**

A study of measurement tools utilized in the analysis of normal and abnormal human motion.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 722. Pathobiology of Human Function I. 3 Credit Hours.**

Pathophysiology of musculo-skeletal processes that impair human function including skeletal muscle; skin, tendons, ligaments, cartilage; bone; and cardiorespiratory.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 724. Cardio-Respiratory Physical Therapy. 3 Credit Hours.**

The skills necessary for the evaluation and treatment of patients with various cardio-respiratory diseases and dysfunctions. Inpatient and outpatient cardiac and respiratory rehabilitation is included. Research on prevention of cardio-respiratory diseases and dysfunctions as it relates to evaluative, and therapeutic methods is also discussed.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 726. Therapeutic Exercise. 3 Credit Hours.**

This course will be a comprehensive approach for the evaluation and management of patients with various orthopaedic pathologies and their related dysfunction(s). An emphasis will be placed on evidence-based practice, critical thinking, treatment algorithms, as they all inter-relate to therapeutic exercises. The general focus of this course is to possess entry-level skills in the cognitive, affective, and psychomotor domains as they relate to the treatment of a wide-variety of orthopaedic conditions.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 727. Prosthetics and Orthotics. 3 Credit Hours.**

This course offers a comprehensive approach to the evaluation, treatment and management of people who require the intervention of prosthetic or orthotic appliances. Identification and application of appropriate therapeutic management alternatives are integrated with self-help appliances to assist with the goal of returning the client to the community and/or the highest level of social interaction.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 728. Musculoskeletal Examination and Manual Treatment I. 3 Credit Hours.**

In-depth examination of differential diagnosis of various extremity dysfunctions with principles of examining soft tissue, bony and post-surgical problems relevant to the shoulder, elbow, wrist/hand, hip, knee, ankle, and foot. Manual therapy/joint mobilizations for each joint will also be introduced.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 729. Evaluation and Treatment of Spinal Dysfunctions II. 3 Credit Hours.**

This course provides an in-depth exploration of the evaluation and treatment of various dysfunctions of the spine. The cervical, thoracic, suboccipital regions and TMJ will be explored. Students will review the lumbar and sacro-iliac dysfunctions. Students are expected to critically review and investigate the literature relevant to the cervical, thoracic, and head-neck regions. Treatment for respective diagnoses will include therapeutic exercise, soft tissue stretching and manual therapy techniques. Clinical competence in manual evaluation and treatment procedures are to be developed.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 730. Pediatric Physical Therapy. 2 Credit Hours.**

This course is designed to provide students with an entry level knowledge, attitudes and skills essential for working with children with movement dysfunction. Examination and evidence-based practices utilized by physical therapists in the treatment of children with musculoskeletal, neuromuscular, cardiopulmonary, integumentary and/or cognitive/affective issues will be emphasized.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 731. Geriatric Physical Therapy. 2 Credit Hours.**

A case-based clinical approach to factors and issues related to examination, evaluation, diagnosis, prognosis, and intervention of aging adults by physical therapists. Topics covered include age-related versus activity related changes to body systems; use of standardized functional assessments appropriate for aging adults; successful aging; musculoskeletal, neuromuscular, cardiopulmonary, cognitive and psychiatric disorders in the elderly; fall risk assessment and fall prevention; home and environmental adaptations/modifications; health care delivery sites/systems; nutrition; polypharmacy; Medicare rules and regulation related to rehabilitation; frailty/sarcopenia; and strength training and exercise prescription in the aging adult. Focused discussion centers on clinical decision making across multiple geriatric settings.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 743. Measuring Health Outcomes. 3 Credit Hours.**

An in depth analysis of the use and construction of health outcome measures. Topics covered include creating and selecting items, scaling responses, scale construction, response bias, reliability, validity, responsiveness and methods of administration.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 744. Integrated Sports and Leisure. 3 Credit Hours.**

Course promotes the integration of students with the physically challenged by working together to learn common recreational activities. Sailing and camping activities are used as an educational tool for students to learn the capabilities, physical resources, and assistance required by physically challenged individuals.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 745. Integumentary Disorders and Treatment. 2 Credit Hours.**

The course will instruct students on the management of individuals with open wounds, burns, and other dermatologic pathology from a patient focused perspective. Emphasis is placed on clinical decision making as it relates to the principles of assessment, treatment, referral, and prevention. Topics covered include: wound assessment and documentation, debridement, electrical stimulation and ultrasound for wounds, dressing selection, skin breakdown and pressure ulcer prevention, support surface selection, burns, skin grafts and muscle flaps, evaluation of arterial and venous circulation, nutrition, and the identification of melanoma, basal cell and squamous carcinoma, psoriasis, impetigo, shingles and other dermatological pathology. The course includes labs for wound evaluation, measurement, debridement, dressing selection and application, pressure mapping and support surface selection.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 748. Advanced Topics in Musculoskeletal Physical Therapy. 3 Credit Hours.**

Advanced examination, evaluation, diagnosis, functional assessment and treatment of patients in selected specialty areas of neuromusculoskeletal physical therapy with emphasis on functional outcomes and evidenced based treatment throughout the life span. Topics to be covered include but are not limited to advanced exercise prescription, treatment techniques for the upper cervical spine, various taping techniques, treatment of trigger points, treatment of headache and neural tension testing.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 755. Neuromuscular Basis of Movement. 3 Credit Hours.**

Concepts of neuromuscular production and regulation of movement with emphasis on neurophysiologic substrates and mechanisms underlying motor behavior.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 760. Theories of Movement Science. 3 Credit Hours.**

An in-depth review of classical theories and recent research in the movement sciences, to include the study and analysis of system theory and neurobiological substrates.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 761. Motor Learning. 3 Credit Hours.**

The factors relating to, and affecting, the acquisition and performance of motor skills. Qualification of skill acquisition and performance are explored.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 762. Advanced Topics in Neurodevelopment. 3 Credit Hours.**

Classical research and systems models of neurodevelopment is reviewed, analyzed, and related to current research on various areas of human development throughout the lifespan.

Requisite: Physical Therapy PHD Majors Only.

**Components:** THI.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 764. Seminars in Neuroscience. 3 Credit Hours.**

This course explores the role and organization of the key units of the central and peripheral nervous systems at the molecular and cellular levels. The integrated functional physiology of systems neuroscience and behavioral neuroscience will be studied with special emphasis on neural contributions to involuntary and voluntary motor functions, perception, cognition, and learning. PREREQUISITE: For Physical Therapy PhD students only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 765. Health Promotion and Disease Prevention. 2 Credit Hours.**

The role of physical therapists in health promotion and disease prevention.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Summer.

**PTS 766. Rehabilitation of the Amputee. 3 Credit Hours.**

This course examines the scientific evidence related to the evaluation, treatment and management of clients who require intervention for diabetic foot and/or dysvascular limb potentially leading to amputation, amputation surgery, prosthetic appliances, functional assessment and amputee rehabilitation. Upper limb prosthetic management will also be examined.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 767. Prosthetic Technology and Amputee Rehabilitation. 3 Credit Hours.**

This course examines the current scientific evidence related to prosthetic devices with regard to evaluation, fabrication, materials, fitting and functional outcomes. Emphasis is on state-of-the-art technology and the future of prosthetic designs.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 768. Rehabilitation Engineering and Assistive Technology. 3 Credit Hours.**

This course is designed for graduate students interested in developing an understanding of complementary roles of clinicians and engineers in assisting individuals with disabilities in all areas of life.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 769. Seminars in Orthotics and Prosthetic Rehabilitation. 3 Credit Hours.**

Examination of current scientific evidence and clinical issues related to upper and lower limb amputees, and prosthetic and orthotic componentry and related technology. Students will discuss case studies and design appropriate devices to address the needs of the individuals in the cases.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 770. Systems-Based Practice in Physical Therapy. 2 Credit Hours.**

This course covers the multiple components of the United States healthcare industrial complex and how systems impact access to and delivery of care; decision-making; patient safety; and the efficiency, cost, and outcomes of care. The course facilitates the integration and translation of evidence-based practice into patient management, including social determinants of health, in order to generate affordable, high-quality health care, while reducing unnecessary legal and regulatory barriers that might limit access to services provided by physical therapists. Ultimately, the course is designed to develop learners who function effectively and proactively within evolving systems and environments that affect the health of individuals and populations.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 771. Complementary Therapies in Rehabilitation. 2 Credit Hours.**

Historical development and evidence-based approach to complementary therapies in rehabilitation.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Spring.

**PTS 774. Role of Academic Faculty in Physical Therapy. 3 Credit Hours.**

Introduction to the faculty roles in an institution of higher education, including faculty development and evaluation systems, educational leadership, and student advising, initiation of a research career and educational administration of physical therapy programs at the entry-level and post-graduate level.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 775. Clinical Decision Making II. 2 Credit Hours.**

This course will require the student to utilize the patient/client management model, the ICF model, the human movement system, a biopsychosocial model of care, evidence-based practice, all clinical and basic science course work, professional and third party documentation requirements, knowledge of healthcare delivery systems, supervision/delegation, interprofessional communication and collaboration, and setting specific legal/regulatory requirements to plan and document evidence-based management of patients in a variety of settings spanning the continuum of care. Using a problem-based learning approach, students will work in small groups to unfold four cases that represent a variety of ages, genders, races/ethnicities, diagnoses, and complexity.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 777. Instructional Methods in Physical Therapy Education. 3 Credit Hours.**

Overview of research in the professional education field, with specific applications to physical therapy academic and clinical education. Emphasis is placed on curriculum development, competency-based instructional design, testing, and instructional evaluation methods.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 778. Teaching Practicum. 1-3 Credit Hours.**

Under the supervision of a UMPT faculty member, PhD students develop course objectives, course materials, deliver lectures, direct lab sessions as appropriate and evaluate course participants. The requirements for a teaching practicum can be met by teaching an elective or teaching a unit in an existing DPT course.

Requisite: Physical Therapy PHD Majors Only.

**Components:** PRA.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**PTS 784. Human Neuroanatomy. 3 Credit Hours.**

Detailed exploration of the human nervous system with an emphasis on structure-function relationship and clinical applications. This course is designed for Physical Therapy graduate students with an interest in a professional career in teaching the anatomical sciences to students of the health professions including medical students.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 785. Medical Diagnostic Tests. 2 Credit Hours.**

This course is designed to provide the Physical Therapy student with the basic skills in understanding and interpreting the imaging techniques of Plain film x-ray, Magnetic Resonance Imaging, Computed Tomography, Bone Scans, Real Time Ultrasound, Electrodiagnostic Tests, selected Laboratory Tests and Fluoroscopy. Special emphasis will be placed on the understanding of where the interpretation of these images falls in physical therapy Differential Diagnosis and evidence based practice.

Requisite: Physical Therapy Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall.

**PTS 790. Models of Physical Therapy Practice. 3 Credit Hours.**

Study of the integration of didactic knowledge, clinical skills, clinical problem solving and the intuitive process into the formation of a clinical diagnosis which will direct treatment in physical therapy. Diagnosis as a process in physical therapy is compared to diagnosis in nursing, psychiatry and medicine, and is distinguished from similar processes such as assessment, examination and screening. Various models of physical therapy practice currently being taught and published will be explored, including the ICF model, the Patient/Client management model, and the Movement System. Recommendations for a Model of PT Diagnosis and Decision making will be made by students.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 795. Clinical Research Methods I. 3 Credit Hours.**

An overview of measurement and sampling research design relevant to clinical research in physical therapy.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 796. Applied Statistics in Physical Therapy. 3 Credit Hours.**

Basic statistics taught from an applied perspective which includes statistical computing using SAS or SPSS and interpretation and presentation of data analysis.

Requisite: Physical Therapy PHD Majors Only.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Offered by Announcement Only.

**PTS 798. Research Practicum. 3 Credit Hours.**

Practicum designed to familiarize the student with an area of research, to implement a pilot study in an area of interest, and to develop working relationship with a sponsoring faculty member.

Requisite: Physical Therapy PHD Majors Only.

**Components:** RSC.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**PTS 799. Independent Study in Physical Therapy. 1-3 Credit Hours.**

Each course is designed to meet the needs of graduate students for in-depth study in a particular area of special interest.

Requisite: Physical Therapy Majors Only.

**Components:** THI.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**PTS 802. Special Internship. 1-3 Credit Hours.**

Supervised clinical education emphasizing clinical skills.

Requisite: Physical Therapy Majors Only.

**Components:** CLN.

**Grading:** SUS.

**Typically Offered:** Offered by Announcement Only.

**PTS 803. Clinical Experience III. 2 Credit Hours.**

This is the third eight-week clinical experience following the completion of all didactic course work. It is the third of three sequential and summative internships. This internship can be completed in an ambulatory/outpatient setting, acute care hospital, and rehabilitation hospital or unit or specialty practice such as pediatrics, sports, or women's health. Even though this internship is unique, it is part of a sequence in which professional development and growth is expected. During this experience the student concentrates on the clinical application of the patient/client management model. This includes the examination, evaluation, diagnosis, prognosis, and intervention and outcome assessment within the context of the clinical setting.

**Components:** CLN.

**Grading:** SUS.

**Typically Offered:** Spring.

**PTS 804. Clinical Experience IV. 2 Credit Hours.**

This is the fourth eight-week experience following the completion of all didactic course work. It is the fourth of three sequential and summative experiences. This experience can be completed in an ambulatory/outpatient setting, acute care hospital, and rehabilitation hospital or unit or specialty practice such as pediatrics, sports, or women's health. Even though this experience is unique, it is part of a sequence in which professional development and growth is expected. During this experience the student concentrates on the clinical application of the patient/client management model. This includes the examination, evaluation, diagnosis, prognosis, and intervention and outcome assessment within the context of the clinical setting. The student is expected to demonstrate good documentation skills, good communication skills and to develop their professionalism according to the APTA Core Values and Code of Ethics expected of the professional physical therapist.

**Components:** CLN.

**Grading:** SUS.

**Typically Offered:** Spring.

**PTS 830. Pre-candidacy Dissertation.. 1-6 Credit Hours.**

To be used for pre-candidacy PhD dissertation research.

Requisite: Physical Therapy PHD Majors Only.

**Components:** THI.

**Grading:** SUS.

**Typically Offered:** Fall, Spring, & Summer.

**PTS 840. Post-candidacy Dissertation.. 1-12 Credit Hours.**

The student will enroll for credits as determined by his/her advisor, but not for less than a total of 12. No more than six hours may be taken in a regular semester, nor more than three in a summer session. When a student has passed his/her qualifying exams and is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Requisite: Physical Therapy PHD Majors Only.

**Components:** THI.

**Grading:** SUS.

**Typically Offered:** Fall, Spring, & Summer.

**PTS 843. Measuring Health Outcomes. 3 Credit Hours.**

An in depth analysis of the use and construction of instruments designed to measure health outcomes. Topics covered include creating and selecting items, scaling responses, scale construction, response bias, reliability, validity, measuring change, and methods of administration.

**Components:** LEC.

**Grading:** GRD.

**Typically Offered:** Fall, Spring, & Summer.

**PTS 850. Research in Residence. 1 Credit Hour.**

To establish residence for the PhD, or DPT, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research or clinical practice. Credit not granted, may be regarded as full-time residence as determined by the Dean of the Graduate School.

**Components:** THI.

**Grading:** SUS.

**Typically Offered:** Fall, Spring, & Summer.