

(PT) PHYSICAL THERAPY

Courses

PT 200. Intro to Physical Therapy. 0 Hours.

A seminar based non-credit course to introduce pre-professional students to the curriculum and profession of Physical Therapy.

PT 399. Topic/. 3 Hours.

This elective course provides the opportunity to introduce varied topics concerning kinesiology, anatomy, physiology, or physical therapy. This course is for students enrolled in the preprofessional phase of the physical therapy program. Prerequisite(s): SC 221 and SL 221 and SC 222 and SL 222.

PT 400. Clinical Edu I. 4 Hours.

The first full-time clinical experience for Husson School of Physical Therapy students is an eight week full-time basic skills course, typically scheduled in the summer following the first professional year. This course is designed to provide the student with guided experience in the affective skills of clinical practice, including adherence to ethical and legal standards of practice, cultural competence, Interprofessional and patient/practitioner communication, and professional conduct, and demeanor. Students participate in the examination, evaluation, and diagnosis/prognosis elements of care, including taking a patient history, simple musculoskeletal and functional assessment, and the development of a simple plan of care, all with the guidance of the clinical instructor. The application of basic interventions, including modalities, therapeutic exercise, soft tissue and joint mobilizations, and functional training is also accomplished under the guidance of the clinical instructor. This first clinical experience provides the student with opportunities to teach utilizing adult learning methods, to practice communication skills in a variety of professional environments, to supervise and direct responsibilities to aides and physical therapist assistants, to engage in problem-solving and clinical decision making under the supervision of the clinical instructor, and to be exposed to the management of outcomes data and fiscal management. The students have not yet acquired the clinical skills or the experience for the management of complex medical situations. Prerequisite(s): PT 413.

PT 410. Gross Anatomy. 4 Hours.

In this course, students engage in an in-depth study of gross anatomy with an emphasis on muscular, skeletal, neural, and vascular structures and systems. The course content gives particular attention to functional anatomy of the appendages and their associated girdles, the back, and the head and neck. Lecture and classroom discussions are combined with cadaver dissections to provide a thorough and clinically relevant knowledge base for subsequent diagnostic and treatment-centered courses.

PT 411. Kinesiology & Biomechanics. 3 Hours.

This course provides a comprehensive study of human movement with an emphasis on biomechanical and kinesiological concepts of normal and pathological movement of the body. The course includes lecture and laboratory components that integrate fundamental mechanical and kinesiological principles in the analysis of joint and limb motion and whole-body movement. The course builds on anatomical knowledge to give students an in-depth appreciation of how human movement emerges as a function of the biomechanical and kinesiological constraints imposed by the structure and function of the body with a special emphasis on the analysis of the gait and posture action systems. Prerequisite(s): PT 410.

PT 412. Motor Control & Learning. 3 Hours.

This course is a capstone course for the BS in Kinesiology degree. It provides students with a holistic overview of current theoretical and applied perspectives in the field of motor control and learning and discusses their implications for kinesiology and for physical therapy. The course will primarily be focused at the behavioral level of analysis and thus will complement the neurophysiological approach taken in PT 450. A major emphasis in this course will be to compare and contrast the theoretical approaches of information processing and dynamic systems in the understanding of both normal and pathological human motor behavior. Implications for the analysis and treatment of movement disorders stemming from both approaches will be examined. This analysis will allow students to constructively criticize current assumptions underlying motor control for motor performance and neurological rehabilitation, and to understand how theoretical frameworks bias evaluation and treatment options. Given a theoretical understanding of past and current approaches to motor control and learning, students will be able to flexibly design their own exercise and treatment approaches. Students will be required to design and conduct an experiment using current computerized technology in an attempt to answer an applied or basic science motor control question. The data from the experiment will be analyzed and written up as if it were to be submitted for publication in a motor control/learning journal. Students will also present their research to the class on completion of the experiment. Prerequisite(s): PT 411.

PT 413. Therapeutic Skills. 4 Hours.

This course is designed to introduce students to the assessment and treatment techniques integral to the practice of physical therapy. Students learn the appropriate selection and use of devices and techniques that all physical therapists should be capable of using. The aim of this course is for the student to safely apply the skills learned in this course to patients during the first clinical education placement at the end of year four. Students explore proper body mechanics, safety procedures, patient approach, and therapeutic massage techniques, goniometry, manual muscle testing, quadrant scanning, and therapeutic exercise of the trunk and extremities.

PT 414. Biophysical Agents. 3 Hours.

This course is designed to introduce the students to the scientific and clinical principles involved in the use of biophysical agents (modalities) in patient assessment and treatment. The course focuses on thermal, light, sound, electrophysiological, and mechanical agents used by physical therapists to treat patients. Students also explore the physics, physiology, and clinical aspects of commonly used modalities. The goals of this course are for the student to understand indications and contraindications and theoretical and scientific background information for each modality as well as be exposed to current scientific evidence concerning each modality. The overarching goal of this course is for the student to develop the knowledge and skills to be able to select, and safely and effectively apply the above modalities to patients under the guidance of clinical instructors, during clinical education experiences where modality use is consistent with the practice setting.

PT 415. Therapeutic Skills I. 3 Hours.

This course is designed to introduce students to the assessment and treatment techniques integral to the practice of physical therapy. This course is the first of a three-part series designed to teach the appropriate selection and use of devices and techniques that all physical therapists should be capable of using. The aim of this course is for the student to safely apply the skills learned in this course to patients during the first clinical education placement at the end of year four. This course is divided into two parts. Part One is devoted to learning proper body mechanics, safety procedures, patient approach, and therapeutic massage techniques. Part Two is devoted to goniometry, manual muscle testing, quadrant scanning, and therapeutic exercise of the trunk and extremities.

PT 416. Therapeutic Skills II. 1 Hour.

Therapeutic Skills II is devoted to learning the proper and safe movement of patients between surfaces, including body mechanics, bed mobility, and transfer training. The students will also be introduced to vital signs assessment and the selection and use of devices and techniques related to gait training. Prerequisite(s): PT 415.

PT 419. Development Across the Lifespan. 3 Hours.

This 3-credit course presents the relationship of structure and function to the development of movement skills across the entire life span. Typical physical development and movement of an individual are described from the time of conception through old age with emphasis on children under five years and adults over sixty-five years. Learners review the impact of developing and aging body systems upon functional movement, and become familiar with functional motor skills pertinent to specific stages of life. Students also develop observational and analysis skills in regard to the development of typical functional skills across the life span. Given this foundation of typical functional and motor skills, learners begin to identify movement disorders. This course is taught from a life span perspective in which social, psychological, and physical factors all interact to impact function. In addition, the course presents movement utilizing concepts and principles from dynamic systems, such as control parameters, self-organization, constraints, and variability in movement.

PT 421. Introduction to Clinical Reasoning. 1 Hour.

This course serves as an introduction to clinical reasoning in physical therapy. The frameworks and types of clinical reasoning are explored and applied to patient scenarios. The characteristics of experts and novices are explored through current literature to enhance the understanding of the developmental nature of clinical reasoning skill. Students also explore their own thinking and practice skills of self-reflection.

PT 425. Exercise Physiology. 3 Hours.

This course examines human physiologic responses to physical activity. The first three units of the course address acute responses to physical activity, with a focus on metabolic, muscular, cardiovascular, and neuroendocrine homeostatic control mechanisms, as well as the influence of environmental factors on acute responses. The final unit of the course involves a discussion of factors that contribute to fatigue, and examines the evidence regarding adaptations to chronic physical activity and exercise. Students will learn how the principles of frequency, intensity, duration, specificity, and reversibility affect the benefits of physical activity for health and human performance. In addition, performance benefits attributable to the use of ergogenic aids will be discussed. Prerequisite(s): SC 221 and SC 222 and SC 291.

PT 431. Psychosocial Aspects of Physical Therapy. 3 Hours.

The purpose of this three-credit experiential course is to foster attitudes, behaviors, and values appropriate to a healthcare practitioner. Through an examination of physical therapy as a profession, students identify the changing and emerging roles of the physical therapist in the current healthcare environment. Students are introduced to professional ethics, practice expectations, laws and regulations that define and limit the scope of physical therapy practice. Effective verbal and written communication skills are emphasized using issues relevant to physical therapy as vehicles for the practice of communication skills. Prerequisite(s): PT 410.

PT 435. Principles of Physiology. 3 Hours.

This course provides an overview of human physiology required for the understanding of clinical conditions in patients referred for physical therapy. Prerequisite(s): SC 221 and SC 222 and SC 291.

PT 450. Neurophysiology. 3 Hours.

This course gives students a basic understanding of the neuroanatomical and neurophysiological substrates underlying human perception, movement, cognition and language. The course pays particular attention to the sensory and motor systems that contribute to the control of posture and movement. Both normal and pathological functioning of the nervous system are discussed. Common dysfunctions of the neuromuscular system are addressed through lectures, student literature reviews, and classroom discussion. Students are required to review recent neuroscience research investigating commonly encountered neural pathologies. Clinical illustrations are discussed throughout the course. This discussion includes etiology, pathology and therapeutic and pharmacological treatment options where applicable. The course enables students to apply neuroanatomical knowledge in analyzing a collection of patient signs and symptoms to determine the location and type of CNS lesion. Prerequisite(s): PT 410.

PT 500. Clinical Edu II. 8 Hours.

This second clinical experience is designed to provide the student with minimally guided to entry level experience in the affective skills of clinical practice, including adherence to ethical and legal standards of practice, cultural competence, interprofessional and patient/practitioner communication, and professional conduct and demeanor. The student participates in the examination, evaluation, diagnosis, prognosis, and intervention elements of care for both simple and complex patients. The course also provides the student with opportunities to teach, utilizing adult learning methods, to practice communication skills in a variety of professional environments, to supervise and direct responsibilities to aides and physical therapist assistants, to engage in problem solving and clinical decision making with guidance for complex cases by the clinical instructor, and to be exposed to the management of outcomes data and fiscal management. Prerequisite(s): PT 400.

PT 506. Musculoskeletal I. 4 Hours.

This four-credit class is the first of a three-course sequence designed to prepare students for musculoskeletal/orthopedic clinical practice. This course introduces components of differential diagnosis and treatment by physical therapists as applied to common conditions of the hip, knee, and shoulder. Students learn a systematic process of examination and begin to develop a clinical decision-making process that is modeled throughout the course. Topics covered and applied throughout the semester include body system review, examination including selective tissue tensioning, biomechanical, and gait assessment, evaluation, and treatment interventions. An emphasis on manual therapy and therapeutic skills involved in the assessment and treatment of musculoskeletal problems associated with these joints is included. Students explore and develop skills in joint mobility assessment/treatment and exercise prescription appropriate to the stage of healing, impairments, and activity limitations presented by the patient. The evaluation of related scientific and clinical literature in the selection of evaluation techniques, treatment techniques, and expected treatment outcomes is emphasized throughout the course. Prerequisite(s): PT 410.

PT 507. Musculoskeletal II. 4 Hours.

PT 507 is the second of three musculoskeletal courses offered in the professional curriculum. PT 507 introduces entry-level PT students to the scientific and clinical principles of musculoskeletal assessment and intervention for the upper and lower quadrants. Building on content introduced in PT 506, entry-level PT students learn to apply a variety of musculoskeletal assessment and intervention techniques to address movement dysfunctions of the shoulder complex, elbow complex, wrist, hand, ankle, and foot. Upon completion of PT 507, entry-level PT students are able to evaluate and treat orthopedic conditions of the upper and lower limbs with supervision in the clinical setting. Prerequisite(s): PT 410.

PT 508. Musculoskeletal III. 4 Hours.

In the third course of the musculoskeletal series, entry-level PT students advance their knowledge concerning the scientific and clinical principles for rehabilitating human movement dysfunctions affecting the neuro-musculoskeletal system. Entry-level PT students further acquire clinical reasoning and psychomotor skills in assessing, evaluating, and treating musculoskeletal disorders of the craniofacial region (temporomandibular joint), cervical spine, thorax, lumbosacral spine, and pelvis. Examination and treatment principles presented in this course include multiple systems: mechanical diagnosis and therapy approach (MDT), orthopedic manual therapy (OMT), therapeutic pain neuroscience, and therapeutic exercise prescription. Entry-level PT students learn to apply joint mobilization techniques, including spinal thrust joint manipulation. Upon completion of the course, entry-level PT students are able to evaluate and treat musculoskeletal disorders of the TMJ, spine, and pelvis with supervision in the clinical setting. Prerequisite(s): PT 507.

PT 509. Evidence Based Practice. 3 Hours.

This course provides a foundation in evidence-based practice (EBP) for physical therapists. The course addresses the five steps necessary for implementing EBP: asking a clinical question, searching the literature, critically appraising the literature, applying evidence, and evaluating outcomes. Students have the opportunity to look at practical examples from rehabilitation literature including intervention, diagnostic, and prognostic studies, systematic reviews/meta-analyses, and clinical practice guidelines. Students also examine research design, reliability and validity, sampling, variables, and statistical analyses commonly used in rehabilitation research. Class format includes lectures and small group learning activities.

PT 510. Neuromuscular I. 4 Hours.

This is the first course in a 2-semester series that covers the physical therapy management of patients with neurological conditions and injuries. It provides students with an overview of the examination and treatment of adult clients with neurological lesions, and then focuses on patients with cerebrovascular accidents (CVA) and traumatic brain injuries (TBI). The course addresses basic etiology, epidemiology, pathology and clinical presentation of CVA and TBI, and focuses on the physical therapy examination, evaluation, diagnosis, prognosis, and interventions for common presentations of these diagnoses. The principles presented in this course can be applied to patients who have suffered many types of neurological lesions. The concept of movement system diagnoses within neurological physical therapy is introduced, and a hypothesis-based approach to development of an intervention strategy is emphasized. Lab sessions provide the opportunity for students to practice hands-on skills on their classmates, and to improve their clinical decision-making using simulated cases. Prerequisite(s): PT 450 and PT 412.

PT 511. Professional Development I: Research. 2 Hours.

Professional Development I is the first in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goal of the Professional Development Series is to provide students with an understanding of the skills, activities, and ethics related to research, teaching, and learning or practice management, an opportunity to explore continued professional development, and the tools necessary for lifelong learning. The course begins with an introduction to each topic area: research, teaching and learning and practice management. Students then work with a faculty advisor to further develop their skills in the area of research. Throughout the course series, students conduct a research study including design, subject recruitment, data collection, analysis and dissemination of their findings.

PT 512. Professional Development I: Teaching and Learning. 2 Hours.

Professional Development I is the first in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goal of the Professional Development Series is to provide students with an understanding of the skills, activities, and ethics related to research, teaching, and learning or practice management, an opportunity to explore continued professional development, and the tools necessary for lifelong learning. The course begins with an introduction to each topic area: research, teaching and learning and practice management. Students then work with a faculty advisor to further develop their skills in the area of Teaching and Learning. Throughout the course series, students develop an educational module for either clinical, didactic or community education. The project includes a review of the literature on teaching and learning, designing and creating educational content, and creating an assessment plan.

PT 513. Professional Development I: Practice Management. 2 Hours.

Professional Development I is the first in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goal of the Professional Development Series is to provide students with an understanding of the skills, activities, and ethics related to research, teaching, and learning or practice management, an opportunity to explore continued professional development, and the tools necessary for lifelong learning. The course begins with an introduction to each topic area: research, teaching and learning and practice management. Students then work with a faculty advisor to further develop their skills in the area of practice management. Students also develop a complete business plan for a physical therapy practice.

PT 514. Professional Development I: International Experiential Learn. 2 Hours.

Professional Development I is the first in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goal of the Professional Development Series is to provide students with an understanding of the skills, activities, and ethics related to research, teaching and learning or practice management, an opportunity to explore continued professional development, and the tools necessary for lifelong learning. The course begins with an introduction to each topic area: research, teaching and learning and practice management. Students then work with a faculty advisor to learn about experiential learning through service learn. This work is in preparation for travel to participate in hands-on, fields-based activities designed to enhance your exposure to and understanding of healthcare in different parts of the world.

PT 515. Therapeutic Skills III. 3 Hours.

This is the third of four courses designed to introduce students to the scientific and clinical principles involved in the use of various therapeutic skills in patient care. This course emphasizes orthopedic evaluation and treatment skills of the upper and lower extremities and some neurological treatment skills related to proprioceptive neuromuscular facilitation (PNF). The emphasis of the class is on development of manual therapy skills and the application of therapeutic exercise prescription. Part of the material pertaining to performing a musculoskeletal screening is taught in the week prior to the start of Fall semester in combination with PT 550 Musculoskeletal I on a different schedule. Prerequisite(s): PT 411 and PT 415.

PT 520. Life Cycles II. 3 Hours.

This course, the second in a two-course sequence, explores the impact of chronic disorders on growth, development, movement and aging. Students will use information describing the typically-development and typically aging individual to determine the changes in structure, function and movement expected from a specific pathology. This course is taught from a life span perspective in which social, psychological, and physical factors all interact to impact function. Prerequisite(s): PT 550 and PT 515 and PT 528.

PT 522. Professional Development II: Research. 2 Hours.

This course is the second in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goal of the Professional Development Series is to provide students with an understanding of the skills, activities, and ethics related to research, teaching and learning, or practice management. It also provides an opportunity to explore continued professional development and the tools necessary for lifelong learning. The course begins with an introduction to each of the three areas. Students then work with a faculty advisor to further develop their skills in the area of research. Throughout the course series, students conduct a research study including design, subject recruitment, data collection, analysis and dissemination of their findings.

PT 523. Professional Development II: Practice Management. 2 Hours.

This course is the second in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goal of the Professional Development Series is to provide students with an understanding of the skills, activities, and ethics related to research, teaching and learning, or practice management, an opportunity to explore continued professional development, and the tools necessary for lifelong learning. The course begins with an introduction to each of the three areas. Students then work with a faculty advisor to further develop their skills in the area of practice management. Throughout the course series, students develop an educational module for either clinical, didactic, or community education. The project includes a review of the literature on teaching and learning, designing and creating educational content, and creating an assessment plan. Prerequisite(s): PT 410.

PT 524. Professional Development II: Teaching and Learning. 2 Hours.

This is the second in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goal of the Professional Development Series is to provide students with an understanding of the skills, activities, and ethics related to research, teaching and learning, or practice management. It also provides an opportunity to explore continued professional development and the tools necessary for lifelong learning. The course begins with an introduction to each of the three areas. Students then work with a faculty advisor to further develop their skills in the area of Teaching and Learning. Throughout the course series, students develop an educational module for either clinical, didactic or community education. The project includes a review of the literature on teaching and learning, designing and creating educational content, and creating an assessment plan.

PT 526. Advanced Therapeutic Exercise. 2 Hours.

This course introduces students to the principles of exercise and the expected responses and adaptations of clients and patients to different types of exercise interventions. It prepares students to assess movement dysfunction using a systematic methodology. Students learn to design, implement and progress therapeutic exercise programs for a wide variety of clinical populations spanning the spectrum of physical therapy clinical practice. Students also participate in exercise as well as instruct and assess the performance of fellow students in therapeutic exercise techniques. The course consists of a mix of didactic lectures and laboratory sessions. Prerequisite(s): PT 510.

PT 527. Professional Development II- International Experiential Lear. 2 Hours.

Professional Development I is the first in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, practice management and service-learning. The overarching goals of the Professional Development Series are to provide students with an understanding of the skills, activities, and ethics related to research, teaching and learning, service-learning, or practice management; an opportunity to explore continued professional development; and the tools necessary for lifelong learning. In Professional Development II: International Service Learning, students travel to a foreign country with Child Family Health International (CFHI) or another similar provider and engage in service-learning under the mentorship of local healthcare providers. The students work with a Husson faculty advisor to prepare for their service-learning trip.

PT 528. Ethical/Legal/Management Issues in Physical Therapy. 2 Hours.

This course examines current issues and trends in the law and ethics of physical therapy, clinical management, and payment policies and practices. Students explore how tools such as the APTA Core Ethics Documents, state Physical Therapy Practice Acts, and other state and federal laws and regulations govern the practice of physical therapy and contribute to resolving frequently-encountered ethical and legal problems, issues, and dilemmas. Legal practice standards related to malpractice and care-related professional misconduct are presented. The course closes with an overview of how U.S. healthcare reform is changing payment policies and practices. Current Medicare billing and coding regulations and practices are introduced as an example of changes in payment structures. Prerequisite(s): PT 410.

PT 530. Rehabilitation of Chronic Conditions. 3 Hours.

This course explores a variety of chronic conditions and their sequelae, including metabolic, vascular, auto-immune, malignant, infectious and traumatic disorders. The course will cover the pathology, medical and surgical management, psychosocial issues, and the role of the physical therapist and other health care team members in patient evaluation and treatment. Prerequisite(s): PT 550 and PT 515.

PT 551. Clinical Education. 4 Hours.

This course is designed to provide the student with entry level experience in the affective skills of clinical practice, including adherence to ethical and legal standards of practice, cultural competence, interprofessional and patient/practitioner communication, and professional conduct and demeanor. The student participates in the examination, evaluation, diagnosis, prognosis, and intervention elements of care for both simple and complex patients. This third clinical experience also provides the student with opportunities to teach utilizing adult learning methods, to practice communication skills in a variety of professional environments, to supervise and direct responsibilities to aides and physical therapist assistants, to engage in problem solving and clinical decision making at entry level, and to be exposed to the management of outcomes data and fiscal management.

PT 552. Musculoskeletal II. 3 Hours.

This is the second of two courses designed to introduce students to the scientific and clinical principles involved in the evaluation and treatment of orthopedic conditions treated by physical therapists. This course will build on the orthopedic evaluation, assessment and intervention skills related to PT 550 Musculoskeletal I, PT 515 Therapeutic Skills III. This course will cover the anatomy, biomechanics, and the skills needed to evaluate and treat orthopedic related pathologies and disorders of the pelvic girdle and spine employing the assessment and intervention techniques from a McKenzie approach to low back pain and a Muscle Energy approach for the spine and pelvis. Additional topics will include Australian Lumbar Stabilization concepts, back school components and set up, ergonomics and work related functional capacity evaluations, work hardening and work conditioning programs. Prerequisite(s): PT 550 and PT 515.

PT 554. Musculoskeletal III. 4 Hours.

The final third of the musculoskeletal series continues to educate student physical therapists on evidence-based approaches to patient/client management of orthopedic conditions. This course allows students to acquire more advanced skills in evaluating and treating dysfunctions that impact the function of the pelvic girdle, spine, thorax, and temporomandibular regions. The course covers an eclectic blend of examination and treatment techniques, including orthopedic manual physical therapy principles, therapeutic exercise prescription, biopsychosocial model of chronic pain, along with an introduction to pelvic floor dysfunction. Students are exposed to various systems of patient/client management for spinal disorders, which include the Canadian, Norwegian, Australian, MDT, mobilization with movement (MWM), and Therapeutic Pain Neuroscience Education (TPNE). Prerequisite(s): PT 507.

PT 560. Cardiovascular and Pulmonary Physical Therapy. 3 Hours.

This course provides a comprehensive exploration of the assessment, management, and rehabilitation of individuals with cardiovascular and pulmonary conditions throughout the lifespan. This course integrates lectures, hands-on labs, and immersive simulations to equip students with the theoretical knowledge, practical skills, and critical thinking abilities required to identify acute and chronic cardiopulmonary/cardiopulmonary impairments across the lifespan. Students develop the skills to choose and apply treatment strategies appropriate to the problems identified during their assessment. Prerequisite(s): PT 561.

PT 561. Pathophysiology. 3 Hours.

This course provides foundational knowledge for understanding human disease. It covers basic physiology that affects the whole system (e.g. blood flow, fluid balance, blood glucose regulation) and organ specific diseases. Students discuss the pathophysiology of various diseases and the associated system dysfunctions, as well as possible functional impairments that people may experience as a result of the diseases. The course briefly covers potential treatment options and their efficacy for many diseases. It consists of didactic lectures supplemented with case studies and videos designed to reinforce topics discussed in class. Prerequisite(s): PT 410.

PT 562. Management of the Medically Complex Patient. 2 Hours.

This course uses a mix of group discussion and lectures to discuss complex concepts in acute care physical therapy practice. Lab activities take place in the simulation center to create increasingly complex clinical scenarios, allowing students to practice clinical reasoning skills and respond to emerging data in real-time. Prerequisite(s): PT 560.

PT 590. Special Topics in Rehabilitation. 3 Hours.

This course is designed to equip physical therapy students with advanced knowledge and clinical skills required to assess, diagnose, and provide effective rehabilitation for selected special populations within the field of physical therapy. Special populations often present unique challenges and require specialized care to optimize functional outcomes and quality of life. This course delves into the assessment, treatment, and rehabilitation of special populations with particular focus given to areas such as oncology and pelvic health, and may include additional topics as determined by the department faculty.

PT 599. Advanced Physical Therapy Elective. 3 Hours.

This course provides advanced study in small groups of varying areas related to physical therapy practice. Prerequisite(s): PT 610.

PT 600. Clinical Edu III. 4 Hours.

This course is designed to provide the student with entry level experience in the affective skills of clinical practice, including adherence to ethical and legal standards of practice, cultural competence, interprofessional and patient/practitioner communication, and professional conduct and demeanor. The student participates in the examination, evaluation, diagnosis, prognosis, and intervention elements of care for both simple and complex patients. This third clinical experience also provides the student with opportunities to teach utilizing adult learning methods, to practice communication skills in a variety of professional environments, to supervise and direct responsibilities to aides and physical therapist assistants, to engage in problem solving and clinical decision making at entry level, and to be exposed to the management of outcomes data and fiscal management. Prerequisite(s): PT 500.

PT 601. Research Methods I. 1 Hour.

This course is the first in a four-semester Research Methods series. Students will work in groups to initiate a research project under the guidance of a faculty researcher. Students will conduct a literature review, formulate research questions, design a research methodology to answer those questions, and develop a research proposal. If appropriate, students will submit the proposal to an Institutional Review Board. Prerequisite(s): PT 420 and PT 412 and PT 450 and PT 515 and PT 550 and MS 345.

PT 602. Research Methods II. 1 Hour.

This course is the second course in a four-semester Research Methods series. It is intended to follow the IRB approval of a research proposal. During this semester students will work in groups with their research advisor to finalize their data collection protocol, establish a data collection management system, seek participants following the guidelines established by the IRB proposal and informed consent process, initiate data collection for their research project, and document collected data following the established management guidelines. Prerequisite(s): PT 601 and PT 552 and PT 528.

PT 603. Research Methods III. 2 Hours.

This course is the third course in the four-semester Research Methods series. It intends to prepare students for writing a journal quality manuscript, with appropriate use of statistical analysis. During this semester, students will work in groups to complete the data collection and analysis for their research projects. Prerequisite(s): PT 602 and PT 554 and PT 560 and PT 520 and PT 561.

PT 604. Research Methods IV. 3 Hours.

This course is the final course in the four-semester Research Methods series. It prepares students for presentation of a completed research study using three different formats, including an oral presentation, a scientific paper, and a poster. The course discusses differences among these three formats, as well as the qualities that contribute to excellence and the pitfalls to avoid in each type of presentation. Students will also gain experience in writing a formal critique of a manuscript. Students are expected to apply the knowledge they have gained from other classes regarding presentations, communication, and education. Prerequisite(s): PT 603 and PT 610 and PT 650 and PT 661 and PT 608.

PT 605. Advanced Anatomy. 1 Hour.

This course provides a review of neural, vascular, and musculoskeletal anatomy initially covered in the first gross anatomy course. This review makes use of previously prosected cadaveric specimens as it integrates knowledge of anatomical pathology learned in previous clinical physical therapy courses. This course serves as a review for the physical therapist licensing exam. Prerequisite(s): PT 410 and PT 610.

PT 608. PT Management of Children with Neurologic Dysfunction. 3 Hours.

In following PT 419, this course maintains the ICF focus on the child's function and social context while exploring evidence supporting PT services for children with neuromuscular disorders. Students develop entry-level skills of assessment and intervention planning for children with developmental disabilities. Multiple factors that contribute to decisions for prescribing family-based, clinic-based, and education-based models of intervention are also analyzed. Students become familiar with evidence-based methods for addressing issues of function in the presence of atypical motor control; the impact of medical, surgical and orthotic interventions in modifying atypical motor control; and, a variety of assistive technology and durable medical equipment frequently seen in pediatric settings. In addition, students are required to complete an online course and certification exam through the CDC on concussions in youth. Prerequisite(s): PT 419.

PT 609. Management of the Integumentary System. 2 Hours.

This course addresses examination, evaluation, and interventions for dysfunction in the integumentary system. Students develop an appreciation for the important role of the physical therapist in managing integumentary issues and acquire the knowledge for treating them. This course covers the etiology of various wounds and how etiology affects prognosis and treatment. Students learn how to manage common types of wounds, and acquire a holistic and interprofessional approach to wound care. Students are also exposed to management of the patient with lymphedema.

PT 610. Neuromuscular II. 4 Hours.

This course is the second part of the series in neurological rehabilitation in the Physical Therapy program. It builds on the foundational courses on Neurophysiology and Neuromuscular I, covering the pathology, medial management, and physical therapy interventions for a number of neurological conditions that are representative of the most common neurological diagnoses seen in clinical practice. In addition to mastering new treatment techniques and interventions, students will learn to apply the principles and skills learned in previous courses to diverse neurologically-impaired populations. The course emphasizes problem-solving using unfolding case studies to accompany most didactic topics. This course also exposes students to current advancements in science such as regenerative medicine, and benchwork scientific research related to the conditions studied and includes critical analysis of primary scientific literature. Prerequisite(s): PT 450 and PT 510.

PT 611. Professional Development III: Research. 2 Hours.

Professional Development III is the third in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goal of the Professional Development Series is to provide students with an understanding of the skills, activities, and ethics related to research, teaching, and learning or practice management, an opportunity to explore continued professional development, and the tools necessary for lifelong learning. The series begins with Professional Development I with an introduction to each topic area: research, teaching and learning and practice management. In Professional Development II: Research Track, students work with a faculty advisor to further develop their skills in the area of research. Throughout the course series, students conduct a research study including design, subject recruitment, data collection, analysis and dissemination of their findings.

PT 612. Professional Development III: Practice Management. 2 Hours.

Professional Development III is the third in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goals of the Professional Development Series are to provide students with an understanding of the skills, activities, and ethics related to research, teaching, and learning or practice management, an opportunity to explore continued professional development, and the tools necessary for lifelong learning. The series begins with Professional Development I with an introduction to each topic area: research, teaching and learning and practice management. In Professional Development II: Practice Management Track, students then work with a faculty advisor to further develop their skills in the area of Practice Management. The final project for the course series is developing a business plan.

PT 613. Professional Development III: Teaching and Learning. 2 Hours.

Professional Development III is the third in a three-course series designed to encourage professional development in one of three areas: research, teaching and learning, and practice management. The overarching goals of the Professional Development Series are to provide students with an understanding of the skills, activities, and ethics related to research, teaching, and learning or practice management, an opportunity to explore continued professional development, and the tools necessary for lifelong learning. The series begins with Professional Development I with an introduction to each topic area: research, teaching and learning and practice management. In Professional Development II: Teaching and Learning Track, students then work with a faculty advisor to further develop their skills in the area of Teaching and Learning. Throughout the course series, students develop an educational module for either clinical, didactic or community education. The project includes a review of the literature on teaching and learning, designing and creating educational content, and creating an assessment plan.

PT 614. Professional Development III- International Experiential Lea. 2 Hours.

Professional Development III is the third in a three-course series designed to encourage professional development in one of four areas: research, teaching and learning, practice management, and service-learning. The overarching goals of the Professional Development Series are to provide students with an understanding of the skills, activities, and ethics related to research, teaching and learning, service-learning, or practice management; an opportunity to explore continued professional development; and the tools necessary for lifelong learning. In Professional Development III, students reflect and present on their service-learning experience completed as part of Professional Development II. Students learn about different methodologies for presenting their material, create a digital media or poster presentation, and a verbal presentation about their experiences. They expand their previous research on service-learning and the cultures they visited.

PT 615. Advanced Spinal Manual Therapy. 2 Hours.

This elective course is designed to provide the student with a more in-depth approach to evaluation and treatment techniques for the spine, pelvic girdle and ribs from an orthopaedic manual therapy perspective. The main emphasis is on improving clinical reasoning skills in identifying the specific lesion(s) and the treatment approach. Another objective is to improve manual skills that emphasize various approaches to the assessment and treatment of musculoskeletal spinal disorders. The assessment and treatment concepts are based on evidence-informed research and consensus among leading experts in the field of manual therapy. The lab sessions emphasize the development of palpation and technique application skills. The integration of manual therapy skills with exercise programs and patient education is another important component of this course.

PT 616. Sports Medicine. 3 Hours.

This elective course is designed as an overview of sports medicine from a physician-based model and a sports therapist perspective. This course includes a review of musculoskeletal therapies with an emphasis on manual skills for prevention, evaluation, and treatment of athletic injuries. The physician-based model provides an overview of all body systems as they pertain to athletics. Topics will emphasize variations from young to old and male to female athletes.

PT 617. Orthotics & Prosthetics. 3 Hours.

This course provides an analysis of contemporary upper and lower-limb orthotic and prosthetic components and trunk orthoses, including the biomechanical principles upon which the designs are based. Topics include the static and dynamic evaluation of patients fitted with orthoses and prostheses. Discussion will also include recent trends in early and prosthetic management for adults and children with amputation. The role of physical therapist as part of the rehabilitation team in selecting orthotic and prosthetic devices will be examined. Prerequisite(s): PT 554.

PT 618. Health and Wellness. 3 Hours.

This course is designed as an overview of health and wellness as it can be incorporated into a physical therapy practice. Students in this course review statistics, risks, treatment options, and prevention strategies for many chronic health problems. Age and gender differences are considered in the discussion of treatment and prevention strategies. Students work in groups to develop and present a health and wellness business proposal. Students prepare a final copy of the proposal in format suitable to deliver to the student's next employer. Prerequisite(s): PT 561.

PT 620. Primary Health Care. 2 Hours.

This course provides students with an overview of patient interview and evaluation techniques for the primary health care provider. As autonomous practitioners, physical therapists are responsible for identifying factors that affect a patient's response to treatment and may necessitate referral to a physician for follow-up and treatment. This course uses a case-based approach to the medical screening process to help students develop interview and evaluation skills that facilitate this process. In addition students learn to use pharmacological and basic laboratory data essential to the screening process. Prerequisite(s): PT 610 and PT 608.

PT 625. Prosthetics in Rehabilitation. 2 Hours.

This course is designed to present entry level information regarding management of the patient with an upper or lower extremity amputation. The course will be co-taught by the primary instructor and a local prosthetist, each bringing a different perspective and area of expertise to the class. Students will learn about pre-prosthetic management, prosthetic prescription, various prosthetic components, and about therapeutic skills to use when working with a patient who has had an amputation. A multi-disciplinary approach will be emphasized throughout the course. Prerequisite(s): PT 411.

PT 630. Professional Identity Formation. 2 Hours.

This seminar course is designed to provide students an opportunity to examine their roles as an educator, advocate, and consultant within the physical therapy profession. Students examine the impact of bias and identity differences (race, ethnicity, class, gender, disability, and other identity differences) on learning and healthcare. Students also study the educational principles, learning theories, and methodologies needed to educate various constituencies within healthcare. Students gain an understanding of population health principles and issues facing underrepresented minorities in healthcare. Students explore opportunities to advocate for patients, populations, and the profession along with healthcare humanities including the lived experiences of patients, confronting fear and anxiety in healthcare and the importance of the caregiver/client relationship. Prerequisite(s): PT 419 and PT 507.

PT 640. Medical Imaging and Rehabilitation. 1 Hour.

This course provides the PT clinical doctoral learner with the tools needed to interpret and apply specialized medical imaging information to the rehabilitation patient. Musculoskeletal imaging is emphasized. A basic introduction of imaging techniques for other physiological systems (CNS, Heart, lung, vascular tree) is also be incorporated (Doppler ultrasound, V/Q scan, echocardiography, radioisotope testing, etc.). This course strengthens physical therapist clinical expertise in comprehensive patient evaluation, diagnosis, treatment planning, and physician interaction. Prerequisite(s): PT 561.

PT 642. Pharmacology and Rehabilitation. 1 Hour.

This course will provide the PT clinical doctoral learner with the primary drug classes and the physiologic basis of their action. Drugs will be grouped according to their general effects and the type of disorders they are routinely used to treat. Special emphasis will be placed on drugs that are commonly used to treat people receiving physical therapy. This course will likewise address how drug therapy interacts with physical therapy, and how drugs can exert beneficial effects as well as adverse side effects that impact on rehabilitation. A specific area of focus will include geriatric pharmacology. Prerequisite(s): PT 561.

PT 650. Patient Care Seminar I. 2 Hours.

This is a seminar course in which the management of variety of actual cases is discussed in small groups. Each student presents both a written and an oral case study, based on a real patient they treated during Clin Ed II. The overall management of the patient, from initial examination to discharge from PT services, as well as follow-up care will be discussed. Discussions focus on the strengths of the patient management provided, as well as areas that could have been improved. Evidence-based practice, and reflective practice are emphasized. Prerequisite(s): PT 500.

PT 652. Patient Care Seminar II. 1 Hour.

This capstone seminar course builds on the themes of reflective and evidence-based practice that were stressed in PT650. Management of patient cases is discussed in small groups, with additional emphasis placed on independent library research on the seminar topics. Prerequisite(s): PT 650 and PT 700.

PT 661. Exercise for Special Populations. 3 Hours.

This course builds on the knowledge base and the assessment and treatment skills that students developed during their first two years in the professional phase of the DPT. The course will allow students to investigate the role of exercise as a treatment strategy across various conditions and disease states, and across the lifespan. The focus of the course will be mastery of the Knowledge, Skills, and Abilities as set forth by the American College of Sports Medicine in their guidelines and position stands for exercise in various populations. These include, but are not limited to, Heart Disease, Hypertension, Children, Older Adults, Pregnancy, Obesity, and Diabetes. Students will participate in lectures as well as observational experiences in wellness and/or medical settings to further enhance the skills needed to assess and treat complex patients with multi-system involvement. Students will also be responsible for a semester project in which they will be challenged to defend patient interventions using evidence from current literature. Prerequisite(s): PT 560 and PT 561.

PT 664. Geriatrics. 3 Hours.

This course provides students with knowledge and clinical skills focusing on management of geriatric clients throughout the spectrum of care. Students learn to differentiate between normal and sub-optimal aging, and demonstrate evidence-based assessment and treatment of older adults with mobility impairments. Through lecture and lab participation, students also demonstrate a strong understanding of the public health implications of falls in geriatric clients, and the role of physical therapy in fall prevention. Students are also introduced to the role of 3rd party payers in determining medical necessity for physical therapy services, and how documentation requirements differ across settings in geriatrics including acute care, post-acute rehabilitation, home health care, outpatient, and wellness. Additional laboratory activities are included in the course to enhance hands-on skills in physical assessment, outcome tool performance, and carrying out evidenced based interventions for both healthy elderly populations and older adults with medical comorbidities. Prerequisite(s): PT 431.

PT 698. Individualized Physical Therapy Remediation. 1-7 Hour.

The Individualized Physical Therapy Remediation is a variably-credit course. In this course, an individual student and a designated faculty member, or members, study subject matter as part of an individualized remediation plan for learning content that was incompletely learned in prior PT courses. The Individualized Physical Therapy Remediation course is available to DPT professional-phase students only with the written recommendation of the Physical Therapy Academic Review Committee.

PT 699. Special Topics in Health Care. 2 Hours.

Variable Topic Course in Physical Therapy.

PT 700. Clinical Education IV. 4 Hours.

This final eight week full-time affiliation provides the learner with competency in the entry-level skills of managing patients with simple to complex musculoskeletal dysfunction, neurologic dysfunction, cardiopulmonary dysfunction, integumentary problems, or complex medical conditions, as well as entry level skills in the administrative functions of the physical therapist. The purpose of this affiliation is to allow the student to participate in the full spectrum of clinical and administrative functions of the physical therapist. The learner is expected to actively participate, with supervision, in the entire patient management process, demonstrating critical-thinking skills and effective communication skills. Prerequisite(s): PT 600.