PHYSICAL THERAPY (PHYT)

Courses

PHYT 5009. Neuroscience. 4 Credit Hours.
This course in neuroscience provides the foundation to understand the structure and functions of the developing, mature, and aging nervous system. It covers basic neuroanatomy, neurophysiology, and neuropharmacology. It also applies neuroscience to clinical applications regarding pathology and patient care. Since cultural organization is central to most functional concepts, neuroanatomy is emphasized to facilitate an overall understanding of the nervous system. Morphology is covered first at the cellular level, then regionally. Neurophysiology of cellular processes of nerve cell transmission as well as regional connectivity of pathways devoted to specific neural modalities is covered. Neuropharmacology encompasses the chemical aspects of synaptic transmission at the cellular level, and the regional differences of transmitter pharmacology. Special emphasis is given to the structures involved in motor control, neuroplasticity, normal neurological functions, and pathologies. Neuropathology is introduced when appropriate to the systems being discussed. The course offers laboratory time examining neurological structures of the central and peripheral nervous system cadaver specimens. Open for cross enrollment on space available basis.

PHYT 5091. Special Topics. 0.5-4 Credit Hours.
This course will be arranged through Department faculty. The course topics vary according to student interest. Semester hours are variable and credit hours will be assessed per topic. The course could be offered any time during the third year (MPT-III), fall or spring.

PHYT 7001. Clinical Foundations 1. 4 Credit Hours.
This course addresses the fundamental concepts of physical therapy practice including basic clinical screening for disease to include systems review, diagnostic procedures, and introductory physical therapy skills. Students are exposed to the components of documentation, basic examination, therapist-to-patient interaction, the disablement process, interdisciplinary management of the patient, and the use of the Guide to Physical Therapy as a management tool. Students also study functional screening techniques, body mechanics, surface anatomy, postural assessment, patient positioning and transfers, locomotion, and the use of assistive devices. The course adds to the foundation for clinical reasoning and clinical decision making. Students have the opportunity to practice fundamental skills involved in patient management.

PHYT 7004. Human Physiology. 2 Credit Hours.
This course is designed to provide students in health professions discipline with the fundamentals of normal human physiology. The course includes emphasizes concepts from a system level. Topics include cellular, respiratory, cardiovascular, digestive, renal, male and female reproductive, musculoskeletal, nervous, endocrine systems and other systems with integration of these physiologic concepts to pathologic disease processes. The course includes classroom lecture, discussion, and case studies.

PHYT 7005. Exercise and Physiology of Rehabilitation. 3 Credit Hours.
The goal of this course is to introduce the student to the application of exercise principles to different populations. This will be achieved by examining the physiology of exercise and applying the principles of therapeutic exercise to different populations. Emphasis is on the role of exercise to improve function, prevent dysfunction, and promote wellness. The role of complementary medicine and integration of interdisciplinary professionals in the presentation of content is intended to enhance understanding of holistic care for active populations. The effects of exercise on energy metabolism, nutrition, cardiopulmonary function, and the musculoskeletal systems are also emphasized in this course. At the end of this course, students will have had the opportunity to learn to be able to apply training principles to develop an appropriate exercise program.

PHYT 7009. Neuroscience. 4 Credit Hours.
This course in neuroscience provides the foundation to understand the structure and functions of the developing, mature, and aging nervous system. It covers basic neuroanatomy, neurophysiology, and neuropharmacology. It also applies neuroscience to clinical applications regarding pathology and patient care. Since cultural organization is central to most functional concepts, neuroanatomy is emphasized to facilitate an overall understanding of the nervous system. Morphology is covered first at the cellular level, then regionally. Neurophysiology of cellular processes of nerve cell transmission as well as regional connectivity of pathways devoted to specific neural modalities is covered. Neuropharmacology encompasses the chemical aspects of synaptic transmission at the cellular level, and the regional differences of transmitter pharmacology. Special emphasis is given to the structures involved in motor control, neuroplasticity, normal neurological functions, and pathologies. Neuropathology is introduced when appropriate to the systems being discussed. The course offers laboratory time examining neurological structures of the central and peripheral nervous system cadaver specimens. Open for cross enrollment on space available basis.

PHYT 7011. Clinical Foundations 2. 4 Credit Hours.
This course continues to introduce the fundamental concepts of physical therapy practice including basic clinical screening, systems review, and introductory physical therapy skills. The course takes a regional approach to surface anatomy and its radiologic correlates, detailed muscle function with specific muscle testing. Functional outcome measures, palpation, and principles of selected interventions to include soft tissue massage and proprioceptive neuromuscular facilitation (PNF). The course will continue to lay the foundation for clinical reasoning and clinical decision making. The student will be given the opportunity to practice fundamental skills involved in patient management.

PHYT 7012. Movement Science 1. 4 Credit Hours.
This course is a study of joint structure and function, and the mechanical principles underlying the kinematics and kinetics of human motion. Emphasis is placed on the interaction between biomechanical and physiological factors in musculoskeletal function and the implications of kinesiology principles in physical therapy practice.

PHYT 7014. Research Methods I. 3 Credit Hours.
This course is designed to develop critical thinking regarding interpretation of research literature. It provides a general introduction to research design, statistical reasoning, and interpretations of the literature. Topics include scientific method, research design, statistical reasoning, development of research questions, issues of measurement, and an overview of parametric and non-parametric statistical techniques. All topics are presented to facilitate understanding of research literature and utilizing evidence for clinical decision-making. The learner will have the opportunity to be able to critically analyze rehabilitation research and begin the process of formulating a critically relevant research question. Open for Cross Enrollment on Space Available Basis.

PHYT 7017. Cells, Systems, and Disease. 3 Credit Hours.
This course characterizes what happens to the human body during different disease processes. It begins at the cellular and tissue levels and advances to a progressive study of diseases and disorders within different organ systems. It examines the pathological changes of both histological and gross anatomical specimens, as well as the biochemical and physiological changes that occur during different diseases and disorders. It also discusses some aspects of diagnosis and treatment of these disorders. There is an extensive medical vocabulary associated with this course. Open for Cross Enrollment on Space Available Basis.

PHYT 7018. Pharmacological Principles in Physical Therapy. 2 Credit Hours.
This course provides the foundation for understanding the impact of drugs on patients with conditions encountered in the practice of physical therapy. Basic pharmacological principles are addressed, as well as important precautions and contraindications for physical therapy treatments. Open for Cross Enrollment on Space Available Basis.

PHYT 7019. Scientific Basis of Neurological Disorders. 3 Credit Hours.
This course in neuroscience provides further foundation to understand the structures and functions of the developing, mature, and aging nervous system. It covers basic neuroanatomy, neurophysiology, and neuropharmacology. It also applies neuroscience to clinical applications regarding pathology and patient care. Since structural organization is central to most functional concepts, neuroanatomy is emphasized to facilitate an overall understanding of the nervous system. Special emphasis is given to the structures involved in motor control, their functions, and pathologies. Open for Cross Enrollment on Space Available Basis.

PHYT 7021. Clinical Experience 1. 5 Credit Hours.
Clinical Experiences 1, 2, and 3 are designed for the student to apply knowledge gained in the basic and clinical sciences courses completed in the first 2 years to clinical practice. The student will become proficient in examination, evaluation, and intervention of patients in a variety of physical therapy settings. Students will complete 10 week rotations in each of 3 settings: acute, inpatient neurological, and outpatient orthopedic. However, they may complete these in any order depending on availability of clinical sites.

PHYT 7091. Selected Topics in Physical Therapy. 1-9 Credit Hours.
This course is an independent study of topics of current interest in the physical rehabilitation sciences. Includes study of current research and important new developments in specific areas of practice and research. Can be repeated for up to 9 credit hours.

PHYT 7097. Research in Rehabilitation Sciences. 3-6 Credit Hours.
This course is an independent research in a selected area of rehabilitation sciences directed by a faculty member. Can be repeated for up to 6 credit hours.

PHYT 7801. Advanced Studies in Physical Therapy. 3 Credit Hours.
This course is an independent study directed by a faculty member in a laboratory or clinical venue in which students study methods and tools of measure using advanced equipment or procedures to assess human performance.

PHYT 7802. Practicum in Clinical Practice. 3 Credit Hours.
This course is a mentored practicum in clinical practice in a specialty area under the guidance of a faculty mentor.

PHYT 8002. Management of the Patient with Musculoskeletal Dysfunction 1. 5 Credit Hours.
Students in this course integrate previously learned skills and knowledge and apply new skills in the examination, evaluation, and intervention of patients across the lifespan with musculoskeletal conditions of the upper quarter, which will include the cervical and thoracic spine and the upper extremity. The course reviews musculoskeletal tissues, the effects of systematic disease on musculoskeletal tissues, the physical therapy exam, and the principles of evidence-based practice. The course then follows a regional approach with attention to the examination and intervention of the cervical/thoracic spine and each joint area in the upper extremity. Students are expected to be knowledgeable and proficient in material from the first-year courses in the areas of patient care skills, anatomy, kinesiology, and therapeutic exercise. The course emphasizes 1) using the best available evidence to examine and treat patients with musculoskeletal complaints in the extremities, 2) critically analyzing the patient's history and tests and measures to formulate a physical therapy diagnosis and determine the need for further referral, 3) recognizing non-musculoskeletal causes of extremity pain and identifying patients needing further diagnostic studies and referral to a specialty physician, and 4) the interdisciplinary approach to patient management through guest speakers from different medical specialties.

PHYT 8004. Introduction to Comprehensive Patient Management in Physical Therapy. 2 Credit Hours.
This course continues and expands on the concepts of the Physical Therapy Patient-Client Management Model. This includes examination, evaluation, diagnosis, prognosis, plan of care, and interventions for the plan of care. Emphasis of this course is using the results of the examination as well as evidence to develop the plan of care. Coordination/communication with other health care professionals is discussed as well as the role of physical therapy in overall health and wellness and its role in global health.

PHYT 8007. Orthotics in Rehabilitation. 1.5 Credit Hour.
The goal of this course is for the student to become proficient in the basic principles and clinical application of orthotic interventions used in the interdisciplinary management of the patient with extremity or spinal disorders across the lifespan. The course addresses the examination of the patient in need of an orthotic device, analyzing the results of the exam, and use of the best available evidence to identify the most efficacious orthotic device to manage or prevent impairment, functional limitation, or disability. Students will have the opportunity to use their critical thinking skills to problem solve case situations and prescribe or fabricate an orthosis most efficacious according to the best available evidence and with consultation from other disciplines.

PHYT 8011. Therapeutic Approaches to Pain and Movement Dysfunction. 3 Credit Hours.
This course examines the management of pain and movement disorders with various interventions. Content includes both direct and indirect effects of interventions with a biopsychosocial approach to patient-centered care. Theory and application of modalities within this course include soft tissue massage/mobilization (STM); tissue integrity; inflammation and repair; and principles and application of electrophysical agents in clinical PT, including cryotherapy, heat and electrical stimulation. The course consists of lectures, labs, "passport" self-selected site visits to experience clinical application of modalities used in physical therapy.

PHYT 8012. Prosthetics in Rehabilitation. 1.5 Credit Hour.
This course is designed to enable the student to become proficient in the principles of examination and intervention for the patient who experiences limb amputation or has congenital limb absence. The course includes the management of wounds and co-morbidities that put one at risk for limb amputation and strategies to identify these patients and prevent limb loss. The student learns the care and prosthetic management of patients in the pre and post-operative stages with limb amputation at different levels. Instructors present strategies to problem solve when presented with patients with other conditions or factors that complicate the patient's course of rehabilitation. The interdisciplinary management of patients with limb amputation is emphasized through clinical experience with a prosthetist.

PHYT 8013. Management of the Patient With Cardiopulmonary Dysfunction. 3 Credit Hours.
This course provides instruction in the basic science and clinical foundation required for the examination and treatment of disorders of the cardiovascular and pulmonary systems. Emphasis is on interpretation of evaluative results involving cardiovascular and pulmonary pathology and application of specific treatment interventions in developing comprehensive PT management of these classes of pathology. This course includes interdisciplinary presentations and opportunities relevant to evidence-based wellness and fitness programs for the physical therapist functioning as part of the cardiovascular and pulmonary rehabilitation team.

PHYT 8014. Seminar in Physical Therapy Patient Care. 1 Credit Hour.
This course is designed to promote integration of knowledge from basic sciences, patient care, health promotion and scientific investigation to enhance patient outcomes. Emphasis will be placed upon facilitation of student review of patient cases/ profiles with selection of tests and measures and potential treatment interventions.

PHYT 8021. Clinical Experience 2. 5 Credit Hours.
Clinical Experiences 1, 2, and 3 are designed for the student to apply knowledge gained in the basic and clinical sciences courses completed in the first two years to clinical practice. The student will become proficient in examination, evaluation, and intervention of patients in a variety of physical therapy settings. Students will complete 10 week rotations in each of 3 settings: acute, inpatient neurological, and outpatient orthopedic. However, they may complete these in any order depending on availability of clinical sites.

PHYT 8022. Professional Issues and Clinical Decision-Making 1. 2 Credit Hours.
This course is designed for the student to assimilate major theories about learning across the lifespan, learning style, teaching techniques, communication in the clinical setting, and communication as a means to develop cultural competence. Emphasis will be on instruction related to clinical practice and critical thinking as well as application to motor learning. A major theme of this course is the development of communication skills to enhance therapist-patient interactions, promote an understanding of learning across the lifespan, and develop cultural competence. Open for Cross Enrollment on Space Available Basis.

PHYT 8075. Human Development across the Lifespan. 3 Credit Hours.
The purpose of this course is to provide the student with the opportunity to learn about typical human lifespan development with the emphasis on health and wellness with application to the practice of PT. The course focuses on the embryonic development, early infancy, childhood, adolescence, adulthood, older adults, and the oldest old. Opportunities for didactic, clinical, and community are integrated into the course to facilitate active learning opportunities. Topics may include interdisciplinary management, cultural sensitivity, psychological factors, socioeconomic concerns, community-based resources, and patient/ family education regarding health and wellness/fitness. Open for Cross Enrollment on Space Available Basis.

PHYT 8102. Research Methods II. 2 Credit Hours.
The emphasis of this course is continued development of critical thinking skills to promote evidence-based practice in the clinical setting. This course is a continuation of Systematic Reasoning and Scientific Investigation 1, and gives the student the support to experience and complete an extensive Critically Appraised Topic or a written research investigation. The student will also practice in small group format the skill of research articles analysis and presentation for public health and education. Students will either submit one article to the APTA Hooked on Evidence website or practice applying for a speaking position for a TPTA conference. The student will also produce either a written research investigation relevant to the practice of PT or a written Critically Appraised Topic with an extensive review of literature. Students also generate an oral presentation of their project to complete the requirements for this course.

PHYT 8106. Principles of Administration in Physical Therapy. 2 Credit Hours.
This course examines current issues and trends in law, ethics and practical aspects of physical therapy clinical management. Specific topics include: (1) health care malpractice and business, contract, criminal, education, and workers' compensation legal concepts and cases; (2) informed consent; (3) organizational theory, behavior, and culture; (4) leadership and management principles; (5) human resource management issues, including recruitment, selection, and retention of staff and managerial human resources; leadership; supervision, and delegation of PTAs, aides, and other extenders; performance appraisal; training and development activities; compensation issues; management labor relations; grievance and discipline; work place safety; and employment law and regulations; (6) health care finance, including clinical budgeting, billing, and reimbursement issues; (7) starting and marketing a PT business; (8) quality, risk, and information management; and (9) comparing and contrasting business, organizational, and professional (ATPA) ethics.

PHYT 8108. Management of the Patient with Neuromuscular Dysfunction 1. 5 Credit Hours.
This course is designed to allow the student to develop the skills necessary to perform examination, evaluation, diagnosis, prognosis, and the development of comprehensive treatment plan of care for patients with neuromuscular dysfunction. Emphasis will be on differential diagnosis, screening, examination, and evaluation of function, and on development of intervention programs that lead to improvement in function. Movement dysfunction will be covered across the lifespan for acute and chronic conditions. The topics will be presented from a problem-solving approach that integrates case studies. Current evidence-based research related to the management of the patient with neuromuscular dysfunction will be critically assessed.

PHYT 8112. Management of the Complex Patient. 3.5 Credit Hours.
This course gives the student the opportunity to practice examination techniques with a systems approach. Screening for conditions requiring referral will be practiced with continued diagnosis, prognosis to include plan of care using the PT Guide to Physical Therapy Practice. The student will generate a case study that will incorporate specific anatomical correlations with images related to the patient case and will be presented to the class for integration of anatomical relationships to patient care. Faculty from the Department of Cell Systems & Anatomy will supervise the peer teaching in the anatomy laboratory.

PHYT 8114. Management of the Patient with Musculoskeletal Dysfunction 2. 5 Credit Hours.
Students in this course integrate previously learned skills and knowledge and apply new skills in the examination, evaluation, and intervention of patients across the lifespan with musculoskeletal conditions of the lumbosacral spine and the lower quarter. The course follows a regional approach with attention to the examination and intervention of the lumbosacral spine, the sacroiliac joint, and each joint of the lower extremity. Students are expected to be knowledgeable and proficient in material from the first-year courses of patient-care skills, kinesiology, and therapeutic exercise. This course emphasizes 1) using the best available evidence to examine and treat patients with spine complaints, and 2) recognizing non-musculoskeletal causes of spinal pain and identifying patients needing further diagnostic studies and referral to a specialty physician.

PHYT 8116. Management of the Patient with Neuromuscular Dysfunction 2. 5 Credit Hours.
This course is a continuation of Management of the Patient with Neuromuscular Dysfunction 1, and is designed to allow the student to continue to develop the skills necessary to perform examination, evaluation, diagnosis, prognosis, and the development of comprehensive intervention plans of care for patients with neuromuscular dysfunction. Emphasis is on differential diagnosis, screening, examination, and evaluation of function, and on development of intervention programs that lead to improvement in function. Movement dysfunction is covered across the lifespan for acute and chronic conditions. Current evidence-based research related to the management of the patient with neuromuscular dysfunction is critically assessed. Management strategies and skills are reinforced by encouraging the students to participate in hands-on pre-clinical experiences, work with area clinicians related to specific diagnoses, and design treatment plans based on case studies with a focus on interdisciplinary practice.

PHYT 8121. Clinical Experience 3. 5 Credit Hours.
Clinical Experiences 1, 2, and 3 are designed for the student to apply knowledge gained in the basic and clinical sciences courses completed in the first 2 years to clinical practice. The student is required to become proficient in examination, evaluation, and intervention of patients in a variety of physical therapy settings. Students are required to complete 10 week rotations in each of 3 settings: acute, inpatient neurological, and outpatient orthopedic. However, they may complete these in any order depending on availability of clinical sites.

PHYT 8122. Professional Issues and Clinical Decision-Making 2. 2 Credit Hours.
This course explores professional issues in physical therapy practice. Topics of emphasis include Vision 2020, professional behaviors, APTA Code of Ethics and Guide to Professional Conduct, and legal standards of behavior for physical therapists. Particular emphasis will be placed on communication and conflict resolution, personality and cultural diversity, stress management, and entry-level physical therapy skill performance. There will also be an interdisciplinary component to the course that will provide students with an overview of ethical issues facing allied health professionals. Topics to be discussed include responsibilities of the health care professional, life and death decisions, patient confidentiality, substance abuse, whistle-blowing, and informed consent. Ethics in research and other critical issues related to health care problems also will be addressed. Collaborative activities and simulated cases will be used to enhance discussion among students.

PHYT 8130. Movement Science 2. 2 Credit Hours.
The course will examine how humans learn and acquire skills, as well as the mechanisms that are used to control skillful movement utilizing integration of concepts from neuroscience and kinesiology. Content will include critical discussion of the various schools of thought on how movement is controlled and learned. Students will have the opportunity to apply the concepts of motor control and motor learning for patients with movement dysfunction. Emphasis will be placed on movement control and motor learning in normal and special populations.

PHYT 8221. Clinical Experience 4. 2 Credit Hours.
This course is a four-week clinical experience that allows the student to choose an area of interest and refine their physical therapy examination, evaluation, and intervention skills in that setting. Students may choose to gain more experience in one of the three required clinical areas (acute, inpatient neurological, outpatient orthopedic) or pursue a specialty area of interest. Alternatively, faculty may identify an area where the student may benefit from additional experience and assign a specific clinical setting.

PHYT 8222. Professional Issues and Clinical Decision-Making 3. 1 Credit Hour.
This course gives students the opportunity to prepare for their clinical experiences. Students are required to complete all required certifications and learn to use the clinical evaluation tool (PT MACS). Particular emphasis will be placed on satisfactory passing criteria for skills outlined in the PT MACS, and expected entry-level physical therapy skill performance.