PT - Physical Therapy

Course Descriptions - Physical Therapy (PT, PTGR)

PT 600, 601. Human Gross Anatomy I, II.--Gross anatomical structure of human body including limbs, trunk, head, and neck. Specific emphasis includes regional study of relationships between musculoskeletal, nervous, and vascular systems, joint structure, cardiovascular and pulmonary systems, and surveys of selected viscera. Includes lecture, dissection of the human body, and demonstrations. Prerequisite: permission of instructor. PT 600-5 hours; PT 601-1 hour.

PT 602. Functional Anatomy.--Integrated study of anatomy, kinesiology, muscle biology, and biomechanics to develop understanding of and ability to analyze normal and pathologic human movement. Prerequisite: permission of instructor. 5 hours.

PT 603. Movement Science I.--Basic processes underlying motor control aspects of movement, including perspectives from individual, task, and environmental levels. Motor control and motor learning theories and models that describe and contribute to understanding of normal movement. Prerequisite: permission of instructor. 1 hour.

PT 604. Movement Science II.--Concepts of motor control theories applied to development of normal movements, including assessments of static and gynomic postures and postural stability, gait analysis, and movement throughout lifespan. Use of qualitative and quantitative measures (visual analysis, ink and paper, computerized motion analysis, EMG, force plates, wt-bearing scales, stabilometry). General knowledge of normal development and assessment of gross and fine motor development. Prerequisite: permission of instructor. 3 hours.

PT 605. Movement Science III.--Basic pathology/etiology, clinical manifestations, and intervention philosophies regarding selected abnormalities of motor behavior, including muscle tone disorders, incoordination, gait, and balance dysfunction; physiological mechanisms of functional recovery; and specific intervention strategies for motor control components of neuromuscular disorders and secondary disorders related to cardiopulmonary and musculoskeletal disorders. Prerequisite: permission of instructor. 2 hours.

PT 606, 607. Neuroscience I, II.--Structures and functions of human nervous system with emphasis on sensory/motor function. Prerequisite: permission of instructor. PT 606: 4 hours; PT 607: 3 hours.

PT 611. Introduction to Physical Therapy Examination.-- Measurement theory with application to types of tests and measures commonly used by physical therapists. Overview of major types of tests and measures employed by physical therapists and type of data generated with focus on self-care for patient. Prerequisite: permission of instructor. 1 hour.

PT 612. Physical Therapy Examination I.--Continuation of PT 611 with focus on knowledge and skills needed to test and measure strength, range of motion, and posture. Prerequisite: permission of instructor. 3 hours.
PT 613. Introduction to Physical Therapy Intervention.--Beginning basic patient care skills used in practice of physical therapy. Physical and physiological principles and methods of therapeutic application of thermal agents. Guiding principles and methods of beginning patient mobility. Prerequisite: permission of instructor. 2 hours.

PT 614. Physical Therapy Intervention I.--Continuation of PT 613 with focus on knowledge and skills needed to select and apply interventions for impairments and functional limitations related to noncomplex problems of movement performance (muscle strength, range). Prerequisite: permission of instructor. 3 hours.

PT 615. Physical Therapy Intervention II.--Study and use of knowledge and skills needed to select and apply interventions for impairments and functional limitations related to selected conditions not previously emphasized in curriculum. Emphasis placed on integrating electrical evaluation and therapy with previously learned examination, evaluation, and intervention skills; other selected conditions include pregnancy, dysfunction of pelvic floor, lymphedema, burns, and stasis ulcers. Prerequisite: permission of instructor. 3 hours.

PT 620. Pathology and Pharmacology for Movement Disorders I.--Basic principles of pathology and pharmacology. Medical and surgical management of disorders involving musculoskeletal, cardiopulmonary, and endocrine systems. Diagnosis, medical, surgical, and pharmacological management, as appropriate, for each disease discussed. Prerequisite: permission of instructor. 3 hours.

PT 621. Pathology and Pharmacology for Movement Disorders II.--Continuation of PT 620 with focus on disorders of nervous, integumentary, endocrine and immune systems. Principles of diagnosis and management of common types of cancer included. Diagnosis, medical, surgical, and pharmacological management, as appropriate, for each disease category. Prerequisite: permission of instructor. 3 hours.

PT 630. Applied Physiology for Movement Science.--Foundation in cellular and systemic physiology covering cardiovascular, pulmonary, musculoskeletal, renal, genitourinary, and endocrine systems with applications to exercise, disease, injury, and immobilization. Basic principles of nutrition and assessment of body composition. Prerequisite: permission of instructor. 3 hours.

PT 640. Physical Therapy Management of Musculoskeletal Dysfunction I.--Application of biological and physical sciences in understanding musculoskeletal disorders. Diagnosis of common musculoskeletal dysfunctions; clinical decision making concerning treatment and prevention of musculoskeletal disorders. Medical and surgical diagnostic and treatment procedures with implications for rehabilitation. Focus on upper quarter including TMJ. Prerequisite: permission of instructor. 4 hours.

PT 641. Physical Therapy Management of Musculoskeletal Dysfunction II.--Continuation of PT 640 with focus on spine. Prerequisite: permission of instructor. 3 hours.

PT 642. Physical Therapy Management of Musculoskeletal Dysfunction III.--Continuation of PT 640 and 641 with focus on lower extremity. Prerequisite: permission of instructor. 3 hours.
PT 643. Physical Therapy Management of Cardiopulmonary Dysfunction.--Physical therapy examination, evaluation, diagnosis, prognosis, and intervention for patients with primary and secondary disorders involving cardiopulmonary system. Prerequisite: permission of instructor. 4 hours.

PT 644. Physical Therapy Management of Neuromuscular Dysfunction.--Application, analysis, and synthesis of neurodevelopmental principles in physical therapy examination, evaluation, diagnosis, and intervention. Prerequisite: permission of instructor. 5 hours.

PT 645. Complex Clinical Management Seminar.--Integration of all previous coursework applied to complex cases reflective of scope of PT practice: direct patient/client physical therapy care; interaction/practice in collaboration with other professionals; prevention, wellness, and health promotion services; consultation, education, and critical inquiry; administration and management. Prerequisite: permission of instructor. 2 hours.

PT 660. Introduction to Physical Therapy Professional Practice.--Profession of physical therapy and role of physical therapy in primary, secondary, and tertiary care; prevention; and wellness. Application of education and communication concepts and skills in physical therapists' interactions with patients, families, colleagues, other health care providers, and public. Prerequisite: permission of instructor. 2 hours.

PT 661. Physical Therapy Professional Practice I.--Understanding of forces contributing to health care environment and effects of environment on physical therapy practice, research, and education. Experiential learning in group process, with health care system of United States and relationship of its components as focus of group presentations. Communication skills important to team process, including documentation and strategic planning and cultural diversity issues related to physical therapy practice. Moral, ethical, and legal ramifications of interactions. Prerequisite: permission of instructor. 3 hours.

PT 662. Physical Therapy Professional Practice II.--Synthesis and application of legal mandates and ethical principles and theories to issues facing physical therapy student and physical therapist functioning in multifaceted role; values clarification and decision making related to current professional issues. Prerequisite: permission of instructor. 2 hours.

PT 663. Physical Therapy Professional Practice III.--Principles of consultation and management and application in health care organizations, with emphasis on community health context. Study of organizational behavior and ethical behavior in organizations; current issues in physical therapy in relation to organizations; relationship of administrative, business, and regulatory law to practice of physical therapy; and, defining a health problem and identifying alternative solutions to problem. Documentation formats and importance to physical therapy practice. Prerequisite: permission of instructor. 3 hours.

PT 670, 671. Clinical Education I, II.--Supervised clinical education in basic patient care skills and introduction to practice issues. Prerequisite:
permission of instructor. PT 670: 1 hour; PT 671: 3 hours.

PT 672. Clinical Education III.--Full time supervised clinical education in a clinical setting to provide student opportunity to apply previously acquired knowledge and skills to client care. Prerequisite: permission of instructor. 7 hours.

PT 673, 674. Clinical Education IV, V.--Continuation of PT 672. Full time clinical education. Integration of all patient care techniques; evaluation of patient progress and appropriate progression of patients in therapeutic programs; experiences in supervision, consultation, research, management, and teaching. Prerequisite: permission of instructor. 7 hours each.

PT 690. Scientific Inquiry I.--Research concepts utilized in physical therapy including fundamentals of epidemiology; introduction to research design, hypothesis generation and testing, measurement theory; and critical analysis of scientific literature. Prerequisite: permission of instructor. 1 hour.

PT 691. Scientific Inquiry II.--Concepts of measurement principles, experimental design, qualitative, survey outcomes research, and introduction to basic statistical concepts, that prepare graduate to critically analyze and use scientific literature to improve clinical practice. Emphasizes on understanding components of research report and concepts associated with judging quality of research design and report. Prerequisite: permission of instructor. 2 hours.

PT 692. Scientific Inquiry III.--Concepts of research methodology with emphasis on data collection, management, and analysis. Prerequisite: permission of instructor. 1 hour.

PT 695. Scholarly Activity Presentation.--Oral presentation of scholarly project activity/results. Prerequisites: PT 690, 691, 692. 1 hour.

PT 698. Master's Level Non-Thesis Research.--Implementation of research. Prerequisite: permission of instructor. 1-3 hours.

PT 699. Master's Level Thesis Research.--Implementation of research. Prerequisite: permission of instructor. 1-6 hours.

PTGR 647. Seminar in Interdisciplinary Services for Infants, Children and Youth with Developmental Disabilities.--Synthesis of team-based approaches to intervention for infants, children, and youth with known or suspected disabilities. Focus on legislation and policy, team processes and practices, and family-centered applications. Open to upper level students in disciplines which have roles in service provision for the described population. Prerequisite: prior/concurrent work experience, recommendation of advisor, or consent of department. 1-2 hours.