APPENDIX B:

COURSE DESCRIPTIONS IN THE PROFESSIONAL CURRICULUM

All Physical Therapy courses require admission to the Physical Therapy Program.

YEAR 1

Fall Semester

DPT 500 Human Anatomy I

Advanced study of the gross structure and histology of the human body. Special emphasis is placed on the musculoskeletal, nervous, cardiovascular and respiratory systems. The course is organized by regions of the body, with the emphasis on the gross anatomy of each region. In addition, the microstructure specific to the tissues discussed will be studied. The course has a lecture and a laboratory component. The lab sessions will involve regional dissection of cadavers, and parallel the information covered in the lecture material. DPT 500 encompasses upper and lower extremities, including bones, joints, muscles, nerves, blood vessels, and connective tissues. 4 Credits

DPT 510 Clinical Biomechanics I

DPT 510 and 511 are designed to provide the student with the biomechanical and histological basis for understanding normal and pathological movement. All of DPT 510 and part of DPT 511 are organized by anatomical region, and although each region is discussed as a unit, every effort is made to illustrate continuities among regions. The discussion of each region includes sections on normal biomechanics and the application of biomechanics to pathological motion. Each section incorporates units on goniometry, muscle testing, stretching, design of exercise programs and palpation. The remainder of DPT 511 covers posture, scoliosis, and gait analysis. 4 Credits

DPT 520 Rehabilitation Neuroscience I

Introduction to clinically relevant neuroscience. Topics include: neuroanatomy, cellular and intercellular physiology, neuroplasticity, development of the nervous system, and the somatic, autonomic, and motor systems. Neural disorders commonly encountered in practice and differential diagnosis are emphasized. Students are expected to fully participate throughout the course in: group discussions of neuroscience, case reports and case studies; inquiry sessions; laboratory and computer-based experiences; and problem- based learning. 4 Credits

DPT 540 Patient Assessment, Intervention & Therapeutic Modalities

This course is designed to provide the student with basic patient care and technical skills in applying, planning, and progressing exercise programs. Topics include: measurement of vital signs, the science of exercise prescription, range-of-motion, stretching, strengthening, use of various exercise equipment, relaxation, fitness, stress reduction, and assistive gait. A strong emphasis is placed on peer collaboration and solving fundamental clinical problems, including evaluation, assessment, and treatment of functional mobility limitations. 2 Credits

DPT 561 Foundations of the Physical Therapy Profession I

This course introduces the student to the history and sociology of the physical therapy profession and its role in the health care system. Additional areas of study include professionalism and professional

behavior, the role of professional organizations, professional writing, learning styles, political aspects of health care, roles of other health professionals, documentation, medical terminology, and the functions of the rehabilitation team. 1 Credit

DPT 590 Research Methods and Statistics
An introduction to the research process. Includes research design, ethical and legal considerations, hypothesis testing, review of statistical analysis and critical reviews of published research. 2 Credits

DPT 750-01 Bioethics Seminar for Physical Therapists
Identification and analysis of ethical issues facing physical therapists in their relationships with patients, peers, the healthcare community, and society as a whole. Pass/No Pass. 0.25 Credits

YEAR 1
Spring Semester

DPT 501 Human Anatomy II
Advanced study of the gross structure and histology of the human body. Special emphasis is placed on the musculoskeletal, nervous, cardiovascular and respiratory systems. The course is organized by regions of the body, with the emphasis on the gross anatomy of each region. In addition, the microstructure specific to the tissues discussed will be studied. The course has a lecture and a laboratory component. The lab sessions will involve regional dissection of cadavers, and parallel the information covered in the lecture material. DPT 501 is a study of the back, head and neck, thorax, abdominal wall and abdominal contents. 3 Credits

DPT 511 Clinical Biomechanics II
DPT 510 and 511 are designed to provide the student with the biomechanical and histological basis for understanding normal and pathological movement. All of DPT 510 and part of DPT 511 are organized by anatomical region, and although each region is discussed as a unit, every effort is made to illustrate continuities among regions. The discussion of each region includes sections on normal biomechanics and the application of biomechanics to pathological motion. Each section incorporates units on goniometry, muscle testing, stretching, design of exercise programs and palpation. The remainder of DPT 511 covers posture, scoliosis, and gait analysis. 4 Credits

DPT 522 Rehabilitation Neuroscience II and Motor Control
Continuation of Rehabilitation Neuroscience I. Topics include: peripheral nervous system, spinal region, cranial nerves, brain stem region, auditory, vestibular, and visual systems, cerebrum, blood supply to the nervous system, and the cerebrospinal fluid system. An introduction to theories of motor control will be discussed. Neural disorders commonly encountered in practice and differential diagnosis are emphasized. Active learning, as described for DPT 520, continues in this course. 3 Credits

DPT 530 Physical Agents and Mechanical Modalities
A comprehensive coverage of biophysical principles, physiological effects, clinical techniques and applications with an emphasis on problem solving and clinical decision making. Topics include massage, superficial and deep heat, hydrotherapy, cryotherapy, traction, compression therapies and continuous

passive motion, iontophoresis, electrical muscle stimulation, transcutaneous electrical stimulation, biofeedback and an introduction to nerve conduction velocity and electromyography. The course includes lectures, clinical skill laboratories, use of interactive audiovisual programs for clinical decision making, abstract writing and class presentations of current research in physical agents. 3 Credits

DPT 542 Principles of Therapeutic Exercise Progression and Motor Learning
This course builds upon the technical skill development in designing and applying exercise programs introduced in DPT 540. Appropriate exercise program progression for patients across the lifespan in a variety of settings will be emphasized predominantly through case-based laboratory experiences. Concepts of motor learning that facilitate skill acquisition will also be introduced. This approach will reinforce therapeutic exercise as a procedural intervention to reduce disabilities, functional limitations, and impairments in a variety of patient populations. 3 Credits

DPT 562 Foundations of the Physical Therapy Profession II
Continuation of documentation, roles of other health care professionals, and professional behavior topics from DPT 561. Additional topics include professional communication, and state and federal health care legislation including HIPAA, Medicare, and licensing boards. 1 Credit

DPT 595 Intro to Evidence Based Practice (EBP)
The course will consist of an introduction to evidence based concepts and evaluation of current research literature. There will be presentations by various faculty on EBP topics. Students will critically appraise and write a paper on a research article dealing with a diagnostic test and a paper dealing with therapy. 2 Credits

DPT 650 Infectious, Immune & Metabolic Disorders
This course examines basic cellular and molecular processes that underlie many of the diagnoses encountered as physical therapists. General concepts of pathology are presented with a focus on the pathophysiology and medical conditions of selected organ systems. This course includes the study of inflammation/ immunology, infectious diseases and metabolism. The definition, incidence, etiology, pathogenesis and clinical manifestations are discussed for the most common medical conditions related to each system. Standard medical therapies are discussed, including pharmacological and surgical interventions. An emphasis is placed upon differential screening and recognition of medical complications that require precautions or represent contraindications to physical therapy treatment. In addition this course is designed to provide skills related to medical screening through physical examination and evaluation. 3 Credits

DPT 750-01 Bioethics Seminar for PTs
Identification and analysis of ethical issues facing physical therapists in their relationships with patients, peers, the healthcare community, and society as a whole. Pass/No Pass. 0.25 Credits

CHP 415/515 Foundations of Interprofessional Practice
This course promotes the development of essential skills and attitudes needed in order to function effectively in an interprofessional healthcare community. Throughout the course, professional first-year students will attend classes and work on an experiential group activity to increase their knowledge in

the four core competencies of IP work as outlined by the Interprofessional Education Collaborative (IPEC). 0.5 Credits

YEAR 1

Summer Semester

DPT-570 Clinical Education Experience I (4 weeks)

These courses emphasize application and integration of academic/didactic coursework into the clinical setting. Students are directly supervised by licensed physical therapists in community-based clinical sites available throughout the US and internationally. Pass/No Pass. 4 Credits

YEAR 2

Fall Semester

DPT 612 Neuromuscular System: Examination & Intervention

Clinical application of observation skills for an individual's motor function within environmental contexts and treatment intervention when a motor dysfunction exists will be explored. Examination skills will focus on development of movement analysis for motor control dysfunction across the life-span. The International Classification of Functioning, Disability and Health (ICF, WHO, 2002) will be used as the framework with emphasis placed on participation in meaningful contexts. Documentation, goal writing, and measurement of outcomes will be incorporated. Clinical decision making will be developed as the learner selects, applies, and justifies treatment interventions for specific patient-centered functional goals. Interventions presented will include remediation, compensation, facilitation, motor learning, and entry-level decision making regarding orthotics for patients presenting with neurologic impairments. Laboratory components will focus on identifying typical motor development and abilities across the lifespan and application of examination of and interventions for patients presenting with cerebral vascular accident, traumatic brain injury, and vestibular and balance disturbances. 4 credits.

DPT 632 Musculoskeletal Examination & Intervention for the Spine

This course covers etiology, pathology, examination and intervention related to conditions of the TMJ, cervical, thoracic, lumbar and pelvic regions of the body. Examination schema will be presented in a regional approach, and will include relevant procedures to screen for medical disease. Intervention techniques will include passive movement, neural tissue mobilization, therapeutic exercise, muscle energy and other clinical techniques. Physical therapy intervention will be directed at resolution of specific impairments and functional limitations, but will also address contributing factors and prophylaxis. 4 Credits

DPT 653 Physiology & Pharmacology I

This course focuses on application of physiologic principles to the development and maintenance of optimal human function and efficient movement. Cardiovascular, respiratory, muscle, endocrine, genitourinary, gastrointestinal, and integumentary systems are covered. The definition, incidence, etiology, pathogenesis, and clinical manifestations for the most common medical conditions related to each system are discussed. The course presents the integration of medical (surgical and pharmacological) and physical therapy management of medical disorders. Evaluations and functional treatment plans to improve performance in healthy individuals as well as individuals with varied chronic diseases are emphasized. Pharmacology principles, factors affecting pharmacokinetics, and pharmacodynamics are covered; specific drug classes and their effect on rehabilitation are emphasized. Direct interventions including patient instruction, therapeutic exercise, wound healing modalities and

debridement methods, functional training, and community integration are considered and practiced, when indicated. Throughout the course, emphasis is placed upon differential screening and recognition of medical complications that require precautions or represent contraindications to physical therapy interventions. Physical exams and direct interventions for pulmonary, cardiac, and integumentary systems will be practiced in laboratory sessions. 4 credits

DPT 685 Pediatric Neuromuscular: Examination & Intervention
Introduction to typical development of children, with a focus on motor development in the context of changing environments across the age span, and within the cultural considerations of childhood and family. Developmental disability diagnoses associated with impaired motor function from congenital or acquired disorders of the central nervous system or genetic abnormalities in infancy, childhood, and adolescence will be presented. Students will gain an appreciation for age appropriate developmental assessments, standardized instruments, and functional means to evaluate children with disabilities in various settings. Pediatric public school practice will be discussed and an appreciation for working with families and educators will be modeled. 3 Credits

DPT 693 Advanced Evidence Based Practice
This is the 3rd course in the research, statistics, and evidence-based practice curriculum. Students will review concepts of internal validity, external validity, and quantification of results of primary studies. In-depth analysis and utilization of systematic reviews, meta-analyses, and clinical practice guidelines that cover a variety of physical therapy practice areas will be presented and practiced. Content will primarily, but not exclusively, focus on physical therapy interventions. 2 Credits

DPT 750-01 Bioethics Seminar for Physical Therapists
Identification and analysis of ethical issues facing physical therapists in their relationships with patients, peers, the healthcare community, and society as a whole. Pass/No Pass. 0.25 Credits

YEAR 2
Spring Semester

DPT 613 Adult Neuromuscular System: Examination & Intervention
This course will focus on the specific health conditions/pathologies of acquired spinal cord injury (SCI) and progressive neurological conditions. Examination and interventions for these populations will be structured within the ICF framework. In addition, students will gain entry-level competencies in client-centered orthotic and wheelchair prescription/acquisition with an emphasis on facilitation of independent mobility participation and/or positioning and support regardless of age. Understanding and identifying issues of environmental accessibility will also be incorporated into total patient evaluation. Collaboration with health professional colleagues in occupational therapy and speech and language pathology will be introduced. 2 credits

DPT 633 Musculoskeletal Examination & Intervention for the Extremities
An in-depth study of musculoskeletal impairments and functional limitations of children and adults. The course includes pathology, medical evaluation and physical therapy examination. Students will also plan and execute therapeutic interventions. The course consists of lecture, laboratory practice, student research, student presentations and problem solving activities. The

course is organized by anatomic region. DPT 630 covers the upper and lower extremities. 3 credits

DPT 642 Clinical Education Experience II (6 Weeks)
These courses emphasize application and integration of academic/didactic coursework into the clinical setting. Students are directly supervised by licensed physical therapists in community-based clinical sites available throughout the US and internationally. Pass/No Pass. 6 Credits.

DPT 654 Physiology & Pharmacology II
This course focuses on application of physiologic principles to the development and maintenance of optimal human function and efficient movement. Cardiovascular, respiratory, muscle, endocrine, genitourinary, gastrointestinal, and integumentary systems are covered. The definition, incidence, etiology, pathogenesis, and clinical manifestations for the most common medical conditions related to each system are discussed. The course presents the integration of medical (surgical and pharmacological) and physical therapy management of medical disorders. Evaluations and functional treatment plans to improve performance in healthy individuals as well as individuals with varied chronic diseases are emphasized. Pharmacology principles, factors affecting pharmacokinetics, and pharmacodynamics are covered; specific drug classes and their effect on rehabilitation are emphasized. Direct interventions including patient instruction, therapeutic exercise, wound healing modalities and debridement methods, functional training, and community integration are considered and practiced, when indicated. Throughout the course, emphasis is placed upon differential screening and recognition of medical complications that require precautions or represent contraindications to physical therapy interventions. Physical exams and direct interventions for pulmonary, cardiac, and integumentary systems will be practiced in laboratory sessions. 2 credits

DPT 670 Psychological Aspects of Illness/Disability
This course presents a survey of emotional, behavioral and social effects of injury, illness or disability on patients, their families and other interpersonal relationships. The interpersonal relationship between health professional and patient is emphasized. Clinical experiences are used as illustrations of theoretical material. 2 Credits

DPT 680 Geriatrics and Gerontology
This course is an introduction to the issues facing older persons in the areas of health, health care policy and sociocultural expectations. It addresses the issues surrounding the burgeoning aging population; the common pathologies and impairments that are associated with the over 65 population in the context of normal vs. usual aging of the cardiopulmonary, musculoskeletal, neuromuscular and integumentary systems; and documentation and reimbursement in the Medicare system. Discussions will include the benefits of exercise in prevention of and rehabilitation from functional limitations; home assessment, housing options and community resources; communication and education with the elderly; restraint use issues; and the issues surrounding elder abuse. Students will also critique many of the functional assessment tools used with this population. 3 Credits

DPT 694 Critically Appraised Topics
Students will work in small groups with a faculty advisor to develop a clinical question relating to diagnosis or treatment and answering that question with a critically appraised paper (CAT) using not more than 3 articles. The CAT will be presented to the class and faculty during the semester. 2 Credits

DPT 750-01 Bioethics Seminar for PTs
Identification and analysis of ethical issues facing physical therapists in their relationships with patients, peers, the healthcare community, and society as a whole. Pass/No Pass. 0.25 Credits

YEAR 3
Fall Semester

DPT 701 Principles of Management & Supervision for Physical Therapists
An in-depth study of service operations management at the organizational and clinical department level is discussed. A focus on the full financial cycle from resource planning and budgeting through reimbursement is emphasized. Basic services of facilities operation and record keeping as well as case management and consulting are addressed. The physical therapist's role as a leader for personal development as well as a human resource manager is discussed. Students learn the process of program and service line development, implementation, marketing, and outcome management. Current regulatory, legal, and policy and procedures that impact practice management are also presented.
4 Credits

DPT 710 Clinical Reasoning Seminar
This course provides students with the opportunity to integrate their skills for evaluation, planning, and revision of interventions. Live and videotaped demonstrations of examinations and evaluations are presented in class. Small groups of students perform an examination of a patient, justify the tests and measurements performed, perform an evaluation (make clinical judgments), establish a diagnosis and prognosis for the patient, plan therapeutic interventions, and develop a plan for outcomes assessment. The students present the case to an audience of physical therapy students and interested people from the community. Pass/No Pass. 2 Credits

DPT 723 Clinical Education Experience III (10 Weeks)
These courses emphasize application and integration of academic/didactic coursework into the clinical setting. Students are directly supervised by licensed physical therapists in community-based clinical sites available throughout the US and internationally. Pass/No Pass. 10 Credits

DPT 730 Professional Lecture Series
A series of lectures, demonstrations, or workshops focusing on specialties and other areas germane to the practice of physical therapy. Examples of topics included are hand orthotics, clinical education, woman's health issues, professional communication, and industrial/occupational health. Topics will be presented by faculty and other clinical experts. Pass/No Pass. 2 Credits

DPT 740 Introduction to Medical Imaging for Physical Therapists

The course includes basic principles of radiology and develops a systematic approach to viewing radiographs. The course is interactive in that students will participate in viewing and describing radiographs and discussing findings with the members of the class. An introduction to Magnetic Resonance Imaging (MRI) is also included. Pass/No Pass. 1 Credit.

DPT 746 Amputation Rehabilitation
This course examines amputation rehabilitation from prior to the amputation surgery through gait and balance training for those people who are appropriate for prosthetic limbs. Topics covered include incidence and etiology, post-operative care, pre-prosthetic care, gait and balance training, functional mobility, and prosthetic componentry. Both upper and lower extremity amputations will be discussed, as well as considerations for working with pediatric patients. Also included is a discussion on footcare for those with diabetes. 2 credits

DPT 750-03 Biomedical Ethics for Physical Therapists

Identification and analysis of ethical issues facing physical therapists in their relationships with patients, peers, the healthcare community, and society as a whole. Pass/No Pass. 1 Credit

DPT 790 Evidence Based Capstone Project
Students will use evidence-based principles to develop a clinical question dealing with diagnosis or treatment. Working individually, students will conduct a complete literature review or two smaller reviews using 8-12 (total) research articles. The clinical question will be answered with a written Critically Appraised Topic (CAT) that will be presented with either a platform or a poster presentation to the School of Physical Therapy in the spring of the final year. Pass/No Pass. 1 Credit

DPT 792 Educational Strategies for Physical Therapists
Educational strategies for designing and teaching in clinical, community, and academic settings. Learning theory is emphasized with a focus on applications in instruction related to physical therapy. Students select topics to teach to each other, offering constructive critique and support. 2 Credits

YEAR 3

Spring Semester

DPT 724 Clinical Education Experience IV
These courses emphasize application and integration of academic/didactic coursework into the clinical setting. Students are directly supervised by licensed physical therapists in community-based clinical sites available throughout the US and internationally. Pass/No Pass. 10 Credits

DPT 725 Clinical Education Experience V
These courses emphasize application and integration of academic/didactic coursework into the clinical setting. Students are directly supervised by licensed physical therapists in community-based clinical sites available throughout the US and internationally. Pass/No Pass. 9 Credits

DPT 790 Evidence Based Capstone Project

Students will use evidence-based principles to develop a clinical question dealing with diagnosis or treatment. Working individually, students will conduct a complete literature review or two smaller reviews using 8-12 (total) research articles. The clinical question will be answered with a written Critically Appraised Topic (CAT) that will be presented with either a platform or a poster presentation to the School of Physical Therapy in the spring of the final year. Pass/No Pass. 1 Credit

CLINICAL EDUCATION EXPERIENCE SUMMARY

DPT 570	**Clinical Education Experience I**	**- 4 credits**	**Year 1, summer semester**
DPT 640	**Clinical Education Experience II**	**- 6 credits**	**Year 2, spring semester**
DPT 641	**Clinical Education Experience III**	**- 10 credits**	**Year 3, fall semester**
DPT 720	**Clinical Education Experience IV**	**- 10 credits**	**Year 3, spring semester**
DPT 721	**Clinical Education Experience V**	**- 9 credits**	**Year 3, spring semester**

These courses emphasize application and integration of academic/didactic coursework into the clinical setting. Students are directly supervised by licensed physical therapists in community-based clinical sites available throughout the US and internationally.

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