**Physical Therapy Course Descriptions**

**BI 532 Biomechanics and Kinesiology** (3)

This course is designed to study and analyze human movement, in a regional format, relevant to the physical therapy practice. More specifically, the course encompasses biomechanics, anatomy, and neuromuscular physiology. Additionally, students are provided with the opportunity to analyze motor performance as it is encountered in physical therapy practice. Analysis of forces and laws of physics shall be applied to knowledge of motion, posture and gait. The use of clinical cases assists in fostering the clinical application of knowledge to physical therapy practice. This course is complemented by the lab based course PT 546.

**BI 533 Neuroscience** (3)

The goal of this course is for the student to develop an advanced understanding of the neuroanatomy and neurophysiology of the normal human brain with a focus on the specific needs of the physical therapy student. Special attention is paid to the interaction between structure and function in the nervous system. An emphasis is placed on sensory and motor systems that may be damaged by disease or injury. Functional deficits and the potential for recovery, for specific neurological disorders, are addressed through case presentations.

**BI 538 Physiology of Exercise** (3)

This course presents the cardiovascular and respiratory responses and adaptations to exercises in health and diseases. Emphasis is on muscular physiology, metabolism, cardiovascular and pulmonary adaptations, aging, thermoregulation, strengthening, training, exercise prescription, and wellness as it relates to physical therapy. Article abstracting assignments and lab reports provide opportunities for students to develop their writing skills and the ability to critique literature.

**BI 542 Gross Anatomy** (4)

This course is an in-depth study of the human body, with emphasis on neuromusculoskeletal systems. Structural interrelationships shall be examined as the basis for human movement and as a means to understand abnormalities in structure and function. Directed laboratory experiences are focused on cadaver dissection. Learning is facilitated through textbooks, anatomical models, and audiovisual material. The case-based format fosters clinical application of knowledge to physical therapy practice.

**PT 540 Overview of the Physical Therapy Profession** (2)

Physical therapy and the professional role of the physical therapist are outlined in a variety of settings. Topics that are addressed include the history of the profession (including an overview of the role of clinical education), the clinical decision making process along with models of disablement, evidence based practice, critical inquiry, the importance of documentation in clinical practice, ethics and legal practice standards. The use of cases develops the clinical application of information to physical therapy practice.

**PT 541 Basic Principles of Physical Therapy** (4)

The purpose of this course is to introduce the students to basic physical therapy skills. Among the topics covered are the following: patient draping, goniometry, manual muscle testing, vitals assessment, transfers, bed mobility & position and gait training with assistive devices. The clinical decision-making process is reviewed using a case-based format.

**PT 544 Introduction to Critical Inquiry** (3)

This course introduces the critical inquiry process relevant to basic and clinical research. Students will learn the basic language, logic and methods of research, as they relate to physical therapy. Specifically the course will provide the student with a basic understanding of evidence-based practice, research ethics and research design. This course will begin the process to enable the student to become an informed consumer of research literature.

**PT 546 Clinical Education Seminar I** (2)

This course is the complementary lab to BI 532. The purpose of this course is for Doctor of Physical Therapy students to develop basic PT assessment skill with an introduction to observation, posture analysis, and surface palpation. Students will practice fundamental identification and palpation skills as part of their development of assessment and treatment proficiency. Students will identify and palpate skeletal muscles, bony landmarks, tendons, joint boundaries, ligaments and inert structures of the head, trunk and extremities as material is covered in a regional format. This course also offers an introduction to the essential principles of therapeutic exercise, posture analysis and anthropometric testing to promote the enhancement of physical and functional abilities. Students will learn soft tissue mobilization techniques and the physiological effects, indications, contraindications and precautions associated with this treatment. Students will integrate their concurrent course work and utilize cases as they apply their knowledge to address clinical scenarios. This course also gives a brief introduction to professional behaviors for clinical practice.

**PT 556 Clinical Education Seminar II** (2)

This course offers an introduction to the essential principles of therapeutic exercise to promote the enhancement of physical and functional abilities. Students will describe areas of physical function toward which therapeutic exercise interventions are directed. A comprehensive and systematic approach to patient management is used that applies critical thinking and sound decision-making. Areas of study include posture awareness, muscle lengthening, range of motion techniques, strength, balance and endurance training. Students have the opportunity to further develop their clinical decision making skills as they are exposed to a variety of case scenarios.

**PT 560 Physical Agents, Mechanical and Electro-Therapeutic Modalities** (2)

This is a practical course designed to introduce a variety of physical therapy procedures and modalities that are used to manage patient problems with skin, connective tissue and pain. The students will be trained in the use of the following physical modalities: superficial and deep thermal agents, hydrotherapy, traction & compression. The electrical modalities that are commonly employed in the physical therapy clinic for evaluation and treatment of various physical dysfunctions will be emphasized. The specific electrotherapeutic applications that will be demonstrated and practiced including those that are utilized for pain modulation, edema reduction, vascular dysfunction, wound care, muscle strengthening and neuromuscular re-education. Students will focus on pre-treatment assessment and physiological response to treatment as the basis for clinical decision making. Patient education, treatment preparation and performance, indications and contraindications will be covered for each modality. Supervised laboratory sessions provide a safe atmosphere for the administration of these agents as well as direct observation of clinical effects. Laboratory sessions and group discussions will be case study driven to foster critical thinking and collaborative learning.

**PT 562 Clinical Medicine I: Musculoskeletal Management** (4)

The course relates normal body functioning to disease processes that occur as a result of illnesses as well as the body’s ability to compensate for these changes. Signs, symptoms, and treatments of major systemic, neurological, musculoskeletal, cardiopulmonary disorders across the lifespan are covered. Specific areas of study include: common alterations secondary to injury, trauma, infection, congenital disorders, metabolic diseases, endocrine disorders, cardiopulmonary disorders, musculoskeletal disorders, hematologic and oncologic disorders. Current medical and surgical management as well as pharmacological implications for these disorders are identified. Relevant physical therapy approaches are explored. Additionally, the use of cases fosters clinical application of knowledge to physical therapy practice.

**PT 564 Musculoskeletal Assessment and Treatment I** (4)

This course focuses on the acquisition and integration of knowledge, manual skills and problem solving skills, as well as differential diagnosis, involved in developing and implementing an intervention for patients with musculoskeletal conditions. Lectures emphasize the comprehension of procedures and techniques related to the evaluation and management of current and potential musculoskeletal conditions. Laboratory sessions address skill development for performing examination and manual treatment techniques safely and effectively, and the integration of these techniques with therapeutic exercise and physical agents. This course is the first of two. It will introduce the student to the principles of physical therapy evaluation and management of the patient with musculoskeletal conditions of the lower and upper extremities. The use of cases develops the clinical application of information to physical therapy practice in an orthopedic setting.

**PT 566 Clinical Education Seminar III** (1)

This course emphasizes the use of the patient-client management model focused primarily on the acute care hospital setting. Topics reviewed include, but are not limited to acute care specific examination techniques, transfers, bed positioning/environmental set up, orthopedic, pulmonary and cardiac care, and post-surgical physical therapy evaluation and intervention. In addition, roles, relationships and responsibilities of the healthcare team, including but not limited to documentation, discharge planning, and the use of appropriate ancillary services and equipment, are covered. Case studies are integrated throughout the course to foster clinical decision- making skills. Students will also be introduced to commonly seen lines, tubes and equipment in bedside treatment.

**PT 611 Motor Learning and Control** (2)

This introductory course has been designed to assist students in the understanding and integration of the principles of motor control and learning into practice for the advancement of motor skill acquisition. Learning is an essential feature of human perceptual-motor behavior. This course provides an introduction to the principles of learning skills, as well as a preliminary application of the principles to therapeutic practice. Theory is explored as it relates to learning, performance and skill acquisition. Principles of learning as they pertain to task analysis and characteristics of learner and learning environment are also addressed.

**PT 614 Musculoskeletal Assessment and Treatment II** (4)

This course focuses on the acquisition and integration of knowledge, manual skills and problem solving skills, as well as differential diagnosis, involved in developing and implementing an intervention for patients with musculoskeletal conditions. It will introduce the student to the principles of physical therapy evaluation and management of the patient with musculoskeletal conditions of the spine. Lectures emphasize the comprehension of procedures and techniques related to the evaluation and management of current and potential musculoskeletal conditions. Laboratory sessions address skill development for performing examination and manual treatment techniques safely and effectively, and the integration of these techniques with therapeutic exercise, soft tissue mobilization and physical agents. The use of cases develops the clinical application of information to physical therapy practice.

**PT 616 Clinical Education Seminar IV** (1)

This course will provide an opportunity for students to build upon their knowledge from the Basic Clinical Affiliation in order to prepare for Advanced Clinic Affiliations I and II. Students will discuss their learning experiences in the acute care, sub-acute and outpatient setting, including similarities and differences across diagnoses, practitioners and facilities. Students will explore how these same patients may present across the continuum of care. Emphasis will be on musculoskeletal, neuromuscular or cardiovascular/pulmonary patients with a variety of co-morbidities. A variety of case studies and clinical scenarios will be utilized to promote critical thinking and decision-making skills as well as provide an opportunity to review previous coursework and clinical skills.

The course also will prepare students to enter the clinical environment by providing them with a short review of major coursework in musculoskeletal, neuromuscular, basic examination and interviewing skills. Students will be introduced to Case Report Methodology, introduced to journaling with an awareness of self and expectations of the rest of the Clinical Internship courses.

**PT 621 Cardiopulmonary Assessment and Treatment** (4)

This course covers the cardiac and pulmonary systems and the pathological conditions of these systems encountered by the physical therapist during patient care. Understanding of ECG, stress testing, pulmonary function tests and clinical laboratory tests in the development of therapeutic programs will be stressed. Emphasis is placed on basic examination of patients, development of therapeutic interventions and understanding of normal and abnormal responses of the cardiopulmonary system to therapeutic exercise. Case studies are integrated throughout the course to foster skills in clinical decision-making, as well as differential diagnosis.

**PT 623 Teaching and Learning** (1)

The course examines the role of the physical therapist as an educator of the client, caregiver, and interdisciplinary team member. Current theories of teaching and learning, including a range of teaching and learning styles, are covered with reference both to the students themselves and their prospective clients. Students will have the opportunity to use the teaching skills for health promotion to a selected audience in the community.

**PT 624 Neuromuscular Assessment and Treatment I** (4)

This course emphasizes the use of the patient-client management model focused primarily on patients with a neurological diagnosis. Examination using standardized and non-standardized instruments and tests will be presented. Examination and intervention skills will be taught using a disability model and a contemporary model of motor control, with an emphasis on task analysis. The focus of the course is on integrating material from previous courses and applying it to the comprehensive (from admission to discharge) management of patients with the following neurological diagnoses: spinal cord injury, cerebral vascular accident, Parkinson’s disease, multiple sclerosis, and traumatic brain injury. Case studies are integrated throughout the course to foster clinical decision-making skills, as well as differential diagnosis.

**PT 634 Neuromuscular Assessment and Treatment II** (4)

This course presents both normal and abnormal movement patterns in children. It continues with the developmental and long term effects of neuromuscular and musculoskeletal dysfunction as they relate to movement. Emphasis is placed the examination and intervention techniques of selected movement problems and explores use of adaptive equipment and the role of the pediatric physical therapist in a variety of contexts and environments. Examination and interventions for subtle and complex neurological conditions will be explored. Interventions appropriate for a variety of service delivery settings including NICU, home-based EI, and schools are considered. The physical therapist role in transitions between delivery settings is also addressed. Students will examine evidence for therapeutic methodology as well as that of alternative and complementary therapeutic regimes. Video and paper cases will be integrated throughout the course to foster clinical decision making skills, as well as differential diagnosis, based on best available evidence.

**PT 637 Clinical Experience I** (3)

Clinical Experiences provide the student with opportunities to integrate and implement didactic knowledge with practical experiences. Experiences are available in a wide variety of practice settings, each with specific objectives and expectations. These settings include: acute care, hospital based outpatient, private practices, inpatient rehabilitation, and home care. This experience is full-time for a duration of 8 weeks, typically. As this is the first clinical experience, productivity and independent performance will not yet be emphasized. As the CPI rating is determined by the weakest of the five performance dimensions, it is recognized that ratings on the first five CPI criteria may be limited by the amount of supervision and guidance or student productivity. This is acceptable as students are likely to be novice clinicians. However, from a qualitative standpoint, students will demonstrate the professional behaviors for which they have self-assessed and have been validated by the faculty.

**PT 639 Research I** (3)

This course provides an introduction to research design, data collection procedures, instrumentation, critical analysis of results, and interpretation of findings. Emphasis is placed on critical appraisal of the professional literature and its application to evidence-based practice. The course culminates in the student’s submission of a written preliminary research proposal.

**PT 740 Physical Therapy Administration and Management** (2)

The business and administrative perspective of physical therapy as well as practice building and management will be covered in this course. The course will explore the managerial skills and organizational knowledge imperative to professional practice. It will cover different managerial styles, discuss leadership skills, and explore when to best implement different styles. Various world health care systems will be identified and compared in relation to government involvement and funding. Additionally, strategic planning, marketing, business organization and pertinent reimbursement and legislative issues will be addressed. The course will culminate in a presentation of all components related to a formal business plan for an allied health Care related business.

**PT 742 Special Topics in Physical Therapy I** (2)

The physical therapist is responsible for working with a wide variety of patient problems and must be competent in the management of these problems. This course will provide instruction in special topics related to physical therapy practice. Methods of evaluation, assessment and treatment of issues related to wound care, prosthetics and orthotics, gait analysis, lymphedema management, and clinical reasoning skills will be discussed in this course. Various methods of web-based instruction will be used to facilitate learning including web-based modules, lab activities, group work and didactic instruction.

**PT 757 Clinical Experience II** (4)

Clinical Experiences provide the student with opportunities to integrate and implement didactic knowledge with practical experiences. Experiences are available in a wide variety of practice settings, each with specific objectives and expectations. These settings include: acute care, hospital based outpatient, private practices, inpatient rehabilitation, schools, and home care. All experiences are full-time for a duration of 8-10 weeks.

Formerly PT 758: Advanced Clinical Affiliation I.

**PT 767 Clinical Experience III** (3)

Clinical Experiences provide the student with opportunities to integrate and implement didactic knowledge with practical experiences. Experiences are available in a wide variety of practice settings, each with specific objectives and expectations. These settings include: acute care, hospital based outpatient, private practices, inpatient rehabilitation, schools, and home care. All experiences are full-time for a duration of 8-10 weeks.

Formerly PT 768: Advanced Clinical Affiliation II.

**PT 770 Professional Development** (2)

Students analyze the behaviors assessed by professional behaviors, learning styles and Clinical Performance Instrument forms, completed throughout the professional curriculum. Specific areas of strength and areas to be improved are identified. Students develop an action plan for ongoing professional growth. Self-reflection and peer and faculty evaluations foster the students’ plan for community service, life-long learning, support and involvement in professional organizations, and the expanding role of the physical therapist. Licensure preparation is an essential component of this course.

**PT 772 Independent Study** (2)

These courses cover special topics in specific system therapeutics, such as musculoskeletal, neuromuscular, cardiopulmonary and/or integumentary. The emphasis is to foster skills in scientific writing in developing the literature review and discussion of the application and rationale of selected approaches in specific physical therapy settings. A minimum of two credits of Independent Study is required over two trimesters.

**PT 789 Research II** (3)

This course is the second of two courses, begun in PT639, that are related to an entry level research experience in physical therapy. The Research Proposal begun in PT639 will be further developed, refined, and ultimately completed. Emphasis will be on furthering the development of critical appraisal skills among students. Students will analyze their data sets and ultimately present their project at the Research Symposium.

**PT 797 Clinical Experience IV** (4)

Clinical Experiences provide the student with opportunities to integrate and implement didactic knowledge with practical experiences. Experiences are available in a wide variety of practice settings, each with specific objectives and expectations. These settings include: acute care, hospital based outpatient, private practices, inpatient rehabilitation, and home care. This experience is full-time for a duration of 10 weeks, typically.

**PT 842 Special Topics in Physical Therapy II** (2)

This course will cover advanced topics including women’s health, vestibular rehab, TMJ, oncology, hand physical therapy and splinting; and therapeutic exercise related to the geriatric individual with pathology. Students will build on previous didactic course work as well as previous and current clinical affiliations. Research literature-review will be employed to insure the physical therapy practice is current and evidence-based. Lab proficiencies will be conducted for vestibular rehabilitation, TMJ, and hand physical therapy/splinting topics

**PT 844 Advanced Clinical Seminar** (3)

This course covers topics related to unique physical therapy therapeutic interventions that may be useful for treating patients with a variety of neuromuscular and orthopedic conditions. Emphasis is on the rationale, selection and application of the chosen approaches in managing distinct populations. Advanced clinical topics addressed include the following: Neural Mobilization, Thrust Manipulations, Mulligan Techniques, and Advanced Exercise Principles for patients across the life-span. Students will be required to demonstrate effective understanding of the rationale for technique selection during oral case presentations. Additionally, demonstration of basic proficiency in the application of these techniques is required as students participate in practical exams. Case studies require students to examine the literature and use critical thinking skills so as to provide the evidence based rationale for treatment prescription as well as implementation. Students must then progress and modify treatment according to patient status.

**PT 846 Advanced Principles of Physical Therapy** (3)

The course focuses on the principles and techniques necessary to perform a competent entry level physical therapy examination and develop an intervention program for complex musculoskeletal and patients with various co-morbidities. Case studies are presented to the students who are then expected to perform a complete history, examination and select and perform appropriate treatment intervention(s). Students are expected to have the knowledge base information to complete this process. Principles from the Guide to Physical Therapist Practice are followed. Case studies require critical thinking and decision-making skills, as well as differential diagnosis for the examination to be performed and treatment to be implemented based on the best available evidence. Students will also be expected to incorporate patient education that includes but is not limited to prevention and wellness.  The students will also be instructed in and required to perform proficiency check-outs in grade V manipulations. Principles and techniques for NDT/SI for the neurologically impaired will be discussed and integrated in case studies with principles of application in patient populations reviewed.

**PT 860 Health Promotion and Wellness** (2)

This course is structured to develop a knowledge base, foster critical analysis skills, and develop implementation strategies related to the role of the physical therapist in preventative healthcare including health promotion, injury prevention, fitness and wellness across the lifespan. Areas of focus include cardiopulmonary and musculoskeletal wellness through detection of risk factors and prevention of injury and disease processes with consideration for specific populations including pediatric/adolescent, adult, female, geriatric and special populations. Students are exposed to public health issues, screening techniques, and strategies for establishing wellness programs in a variety of settings.

**PT 862 Physical Therapy Pharmacology** (2)

This course presents a description of the most commonly used pharmacologic agents seen in physical therapy practice. The basic principles of pharmacodynamics and pharmacokinetics will be reviewed. The purpose, action and side effects of medications used to manage cardiac, pulmonary, neurologic, pain, endocrine, psychiatric and other disorders will be presented. Recognition and management of drug side effects and interactions will be presented.

**PT 864 Healthcare and Leadership** (2)

Leaders in the healthcare industry must have an understanding of issues currently facing our healthcare system today combined with a drive to achieve the best in themselves, their employees, and their organization in order to survive. In this course, we will examine the expected changes and concerns/potential issues in our healthcare system resulting from the passage of the Patient Protection and Affordable Care Act of 2010. We will study the financing of our healthcare system, access and socioeconomic issues, and review current models of healthcare and universal health care programs utilized in other countries today. Knowledge of these issues provides leaders with a foundation from which to cultivate teamwork, competency, motivation and improved performance in an organization. In addition, self-awareness of leadership qualities and style will be examined.

**PT 882 Diagnostic Imaging** (2)

This course introduces the DPT student to modern musculoskeletal imaging. Emphasis is placed on the interpretation of plain films, magnetic resonance (MR) and computed tomography (CT) imaging. The course is taught using a regional anatomic approach. Within each region, information will generally be presented in the following order: a brief review of the clinical anatomy of the region, normal imaging, and pathology. Material from the textbook will be supplemented with links to peer-reviewed articles from the radiologic literature. Throughout the course, emphasis will be placed on the relevance of diagnostic imaging in everyday physical therapy practice. Clinical case scenarios are utilized to further develop critical thinking skills of students.

**PT 884 Medical Screening** (2)

This course will explore the role of the physical therapist as an independent practitioner working in a collaborative medical model. The physical therapist has a responsibility to recognize clinical manifestations that suggest physician contact is warranted regarding a client's health status. Medical screening procedures that are useful to physical therapists to identify non-musculoskeletal pathology are reviewed. Additionally, the use of medical diagnostic procedures and laboratory tests in diagnosing various conditions will be addressed. The referral process is addressed allowing the physical therapist to optimize the use of other health care team members and their services accordingly. The lecture, text and case-base format is used to foster application in the physical therapy setting.

**PT 892 Independent Study** (2)

This optional course allows the student to foster skills in scientific writing and/or research an area of interest in depth under the mentorship of a selected faculty member. The course also allows the Dominican graduate an opportunity to extend the research project carried out in the previous trimester. Open to both DPT and Transitional DPT students.