

Department of Physical Therapy

Department of Physical Therapy Chairperson: Allison Hyingstrom P.T., Ph.D.

Department of Physical Therapy website (<http://www.marquette.edu/physical-therapy>)

Vision

The Physical Therapy Department at Marquette University will be among the best educational programs in preparing graduates who excel in academics, leadership, clinical practice, and service to others.

Mission

To graduate entry-level physical therapist professionals who are ethical practitioners, knowledgeable of current practices, skillful in applying their knowledge, motivated to address the needs of the under-served community, self-directed lifelong learners who will become leaders in their profession and community.

Furthermore, in an effort to meet the current health care needs in under-served areas, the department is committed to supporting programs of outreach that will enhance the enrollment and training of disadvantaged students and service to disadvantaged populations.

Our *primary* goal is to graduate physical therapists that are recognized by consumers and other health care professionals as general practitioners of choice to whom consumers have direct access for diagnosis of, interventions for, and prevention of impairments, functional limitations, and disabilities related to movement, function, and health.

Philosophy

Consistent with the Ignatian practice of Examen which makes a Jesuit education unique, the Department of Physical Therapy aspires to transform students into critical thinkers who respect the dignity and worth of others, through the process of reflection and discernment. The teaching-learning process is recognized as a dynamic interaction of shared responsibility among the academic faculty, clinical faculty and students. The Department of Physical Therapy supports the educational view that students learn in a multitude of ways, necessitating a variety of learning experiences. These experiences are important for the development of a life-long autonomous learner who is self-motivated and self-directed. The departmental faculty are a resource and role model in the development of these traits by providing quality instruction, contributing to the general body of knowledge through an active research agenda, maintaining personal clinical competence including the operation of on-campus Physical Therapy clinic, demonstrating professionalism, respecting the dignity of others and advocacy for patient and professional causes. It is the goal of the faculty to help students to become educated members of society, active members of their profession and role models for peers and future physical therapists.

Expected Global Student Outcomes

Graduates of the Physical Therapy program will be able to:

1. Demonstrate the skills necessary to practice autonomously within a direct access environment in essential practice areas as defined by the *Guide for Physical Therapist Practice*.
2. Use testing and differential diagnosis to screen individuals in order to determine appropriateness for physical therapy services, and/or to determine the need for referral to other health professionals.
3. Apply evidence based decision making in planning patient care.

Students admitted to the Physical Therapy program are enrolled in a curriculum that culminates in a doctor of physical therapy degree. This is a six-year curriculum for a student admitted at the freshmen level. The student first earns a baccalaureate degree of their choice and then is awarded the Doctor of Physical Therapy (D.P.T.) degree at the end of the professional course work. Students admitted with a bachelor's degree earn the Doctor of Physical Therapy degree after completing the three-year professional program.

Undergraduate Admission Requirements

Students may be admitted to the program as freshmen with a guaranteed admission to the professional phase beginning fall of 2022 if the student successfully meets all requirements for advancement. Guaranteed admission cannot be extended if requirements are not successfully completed in the pre-professional phase.

High school applicants to the Department of Physical Therapy are expected to fulfill the general admissions requirements listed in the university section of this bulletin. In addition, the following specific items should be noted for admission to the Department of Physical Therapy:

1. One year of high school chemistry and biology is required. Applicants should include trigonometry among the three required units in mathematics because trigonometry is a prerequisite for General Physics 1 and 2 at Marquette.
2. Freshman class enrollment is limited. College entrance exam results, transcripts and the application must be received at Marquette no later than Dec. 1 of the preceding academic year for which the student is applying.

- The sequence of courses in the professional phase begins in August of each academic year.
- Advanced Placement (AP) and/or International Baccalaureate (IB) credits may be applied toward D.P.T. prerequisite courses with the exception of CHEM 1002 and PHYS 1002. These two pre-requisite courses must be completed at the college level for a letter grade. **Note:** AP and IB credits awarded by MU are credit-bearing only and are not included in grade point average (GPA) calculations.

Marquette students who were not admitted as freshmen may apply to transfer into the program. Further details of entrance requirements are available from Marquette's Office of Undergraduate Admissions.

Transfer Applicants

Pre-physical therapy students (PREP) applying for transfer admission into Year Four, are subject to spaces available. To apply for this internal window of admission, students need to complete at least half of the physical therapy prerequisite credits at Marquette University and meet or exceed all requirements for the undergraduate phase. External transfer students with degrees and pre-reqs from other institutions may also make application to the professional phase of the program and may be enrolled as space allows. As the program is primarily direct freshmen admittance, transfer enrollment is extremely competitive. All external transfer applicants apply via the national Physical Therapist Centralized Application Service. ([www.PTCAS.org](http://www.ptcas.org) (<http://www.ptcas.org/home.aspx>))

D.P.T. prerequisite courses taken elsewhere (maximum 7 credits) must be completed through in-class format only, they cannot be completed through online courses. Prerequisites completed at Marquette University can be taken through the in-class or online format. D.P.T. prerequisites required before admission to the professional phase:

Area	Credit Hours
Biology	3
General Chemistry 1 and 2	8
General Physics 1 and 2	8
Statistics	3
Introduction to Physical Therapy*	1
Abnormal or Developmental Psychology	3
Anatomy and Physiology	5
Total**	31

Advanced Placement (AP) and/or International Baccalaureate (IB) credits may be applied toward D.P.T. pre-requisite courses with the exception of CHEM 1002 General Chemistry 2 and PHYS 1002 General Physics 2. **Note:** AP and IB credits awarded by MU are credit-bearing only and are not included in grade point average (GPA) calculations. MU courses that meet the Psychology prerequisite are PSYC 3101 Developmental Psychology: Conception Through Adolescence, PSYC 3120 Developmental Psychology: Adulthood and Aging and PSYC 3401 Abnormal Psychology.

* Waived for accepted transfer students but need to document proficiency in medical terminology in lieu of Intro to PT Class. Completion of a programmed text and written departmental test in medical terminology would meet this requirement and is offered to the students accepted into the professional phase of the program.

** External transfer students need 12 credits of social sciences and/or humanities in addition to the DPT prerequisites. Three credits of cognitive and motor learning are strongly recommended, but not required.

Essential Functions

Students are made aware as freshmen and prior to entering the professional phase that all students must be able to carry out the basic duties of a generalist physical therapist with or without reasonable accommodation(s). A generalist P.T. is one who is capable of treating patients across the lifespan. Specifics of the essential functions are included in the Physical Therapy Student Handbook.

Absences

Students who are ill or anticipate absence for a family emergency must contact the physical therapy office immediately. All students must consult with the instructor of the course(s) missed for makeup, if necessary. Absences of two or more weeks during the fourth, fifth or sixth years of the program may be considered as grounds for repeating the entire term.

Anticipated absences from full-time clinic must be approved in advance by one of the directors of clinical education at Marquette University and the center coordinator of clinical education at the clinical site. Unapproved absences are not acceptable and may lead to dismissal from the clinical site. Emergency absences, illness, etc., are circumstances usually considered to be acceptable absences if they are substantiated by the coordinators.

Academic Regulations - Undergraduate Phase

Students admitted to the D.P.T. Program as freshmen must meet all requirements for advancement. These include:

1. A 2.670 or greater cumulative grade point average in the specified D.P.T. prerequisite course work consisting of BIOL 1001, CHEM 1001, CHEM 1002, PHYS 1001, PHYS 1002, PHTH 1001, Abnormal or Developmental Psychology, Anatomy/Physiology courses and a statistics course (34 credits). Advanced Placement (AP) and/or International Baccalaureate (IB) credits may be applied towards D.P.T. prerequisite courses with the exception of CHEM 1002 and PHYS 1002. AP and/or IB credits awarded by MU are credit-bearing only and are not included in grade point average (GPA) calculations.
2. A grade of C or better in all D.P.T. prerequisite courses.
3. It is strongly encouraged that all D.P.T. prerequisite courses be completed at accredited four-year institutions. Online courses are not accepted for D.P.T. prerequisites unless taken at Marquette University.
4. Prerequisite courses taken outside of MU are included in the D.P.T. prerequisite GPA calculations, even though the university does not include the GPA in the cumulative GPA. If a course is taken more than once, the higher grade is used in the D.P.T. prerequisite GPA calculation. Students should follow the policy for Study at Other Institutions (<http://bulletin.marquette.edu/undergrad/academicregulations/#studyatotherinstitutions>).
5. To maintain direct admit status, students can take no more than 7 prerequisite credits outside of MU and must follow the policy for Study at Other Institutions. Courses taken elsewhere cannot be completed in an online format.
6. A demonstrated plan for completion of a bachelor's degree at the end of the spring term of the DPT5 year in the professional phase (years 4, 5 and 6) of the program. Students who do not complete their undergraduate degree in the expected time frame (4.5 years for EXPH majors, 4 years for all other majors), must submit a written plan to the Physical Therapy department chairperson that outlines degree completion before the end of the spring term of the DPT5 year. Students accepted to the Athletic Training/Physical Therapy dual-degree program must complete all requirements for the Master of Athletic Training degree prior to entering the final two terms of the Doctor of Physical Therapy program.

Following acceptance into the professional phase of the program, students follow the curriculum as outlined for the three-year professional phase unless prior approval is received from the department chairperson.

CR/NC Grade Option

University guidelines allow junior and senior students to elect one course per term (to a maximum of four courses) for which only a CR or NC grade is assigned, given certain requirements are met. Refer to the CR/NC option entry in the university section of this bulletin for the specific requirements. However, this CR/NC option is not available for any course that is part of the prerequisite courses for the D.P.T. program or any course required in the professional phase of the program.

Assessment of student requirements for admission to the professional phase

Assessments of students' fulfillment of the above criteria are made June 1, prior to students entering the professional phase of the program in the summer of their third year. Students who have successfully met the requirements are guaranteed admission into the professional phase of the program with the class they entered as freshmen. Students who do not meet the criteria forfeit automatic admission into the professional phase in the fall term.

Admissions Hearing

Direct admit students who complete the prerequisite courses with GPA below 2.670 or fail to meet any of the other admission requirements are not admitted to the professional phase of the program. DPT-3 students who only need to remediate their GPA may request to use the summer sessions to retake their lowest prerequisite grades in order to achieve the 2.670 GPA. Such a request is made in writing to the departmental chairperson. Students who do not successfully remediate deficiencies, may request a hearing with the Academic Standards Committee.

Course Sequence

Taking courses early and out of sequence is discouraged. No online prerequisite courses are accepted except if offered at MU. Professional phase courses taken early while a student is in the pre-professional phase are subject to the 2.670 GPA requirement. This is calculated with only D.P.T. classes, therefore, if only one professional phase course is taken in a given term, a B minus (B-) grade is required to meet the requirement of a 2.670 GPA per term. Students who fail to meet these requirements may be placed on academic probation and required to retake professional phase courses. Students cannot withdraw/drop a required D.P.T. class without permission from the department chairperson.

Academic Regulations - Professional Phase

Students are expected to full-time status and complete the D.P.T. program in 3 years. If extenuating circumstances occur, students may be allowed to extend their program into a 4th year with permission of the department chairperson. Failure to complete the D.P.T. program requirements within the 4-year time limit may result in dismissal from the program. During the professional phase of the program, students are considered in good academic standing if they comply with the academic standards printed in the Physical Therapy Student Handbook. Failure to meet the academic requirements (p. 3) results in dismissal from the program.

Academic Censure (Dismissal/Probation/Academic Alert)

Overview

There are certain categories of student performance problems that can lead to some form of censure. These problems may be identified at any point during the academic year, though a systematic review of all students' course grades is also conducted at the end of each academic term. The review of other, non-course grade problems is typically conducted on an individual basis as issues arise. A finding of significant problems in any of these areas can result in probation, suspension or dismissal, depending on the nature and severity of the problems identified. All of these statuses are

maintained permanently on the academic record; only dismissal, however, appears permanently on Marquette University's official transcript. If students are reinstated following a dismissal, that notation also permanently appears on the official transcript. The statuses that appear permanently on the official transcript include those listed (in bold type) below:

Required to Withdraw for Academic Reasons (RWAR): dismissal for deficient academic performance as described below.

Reinstated on Probation: following successful appeal of academic dismissal.

Required to Withdraw for Professional Integrity Reasons (RWPI): dismissal for violation of Professional Integrity standards as described below.

Required to Withdraw for Academic Misconduct (RWAM): dismissal for violation of the academic honesty policy as outlined in the Academic Regulation section of this bulletin.

Academic Dismissal – Required to Withdraw for Academic Reasons (RWAR)

Health Science Professional students (HESP) who have completed their undergraduate degree must maintain a GPA of at least 2.400 for each term. The D.P.T. program considers a grade below C to represent unsatisfactory academic progress. Students earning a final grade below a C (C- or below) or an unsatisfactory grade (U, UNC, UW, ADW, WF, WA) in a course or in a clinical experience in the D.P.T. program may be dismissed. The Office of the Registrar (OTR) and the Office of Student Financial Aid (OSFA) monitor the program academic requirements at the end of each term (fall, spring and summer). Students who do not meet these academic requirements are academically dismissed by the college (coded as RWAR by OTR) and their record coded as failure to maintain Satisfactory Academic Progress (SAP) by OSFA.

Undergraduate students in the Physical Therapy program must also meet the requirements listed above to continue in the Doctor of Physical Therapy program. Students who are dismissed from the Physical Therapy program but remain in good standing at the university as an undergraduate student, are allowed to continue with their undergraduate degree course of study.

Satisfactory Academic Progress: there are other SAP conditions for which students are responsible and are applied to all students in the program, both professional and undergraduate. Refer to the complete SAP policy (http://www.marquette.edu/mucentral/financialaid/resources_elig_standards.shtml) on the OSFA website.

RWAR/SAP Appeal Process

Students subject to RWAR/SAP must appeal both RWAR/SAP by sending one form, which addresses both RWAR and SAP issues. This is done via the Academic Censure form located on the Marquette Central academic forms website (http://www.marquette.edu/mucentral/registrar/policy_forms.shtml). The form includes all of the required information students must submit in order to have their appeal reviewed.

- The form is submitted to Marquette Central (see bottom of form for methods of submission). Completed appeal forms are then forwarded to the chairperson of the Department of Physical Therapy. The department chairperson, in consultation with the Academic Standards Committee, has the final decision on all RWAR/SAP appeals. The Academic Standards Committee may require a hearing with students. See appeal hearing procedures in the Physical Therapy Student Handbook.
- If the appeal is approved, students are 'Reinstated on Probation' and the Academic Standards Committee establishes an academic probation plan for them to regain their satisfactory academic and degree progress standing, and their eligibility for financial aid is restored.
- The plan must be measurable and ensure that students are able to meet Marquette's SAP standards by a specific point in time. Plans should include courses to be taken, expected grades and a time frame to complete the outlined objectives.
- The plan is monitored by the department (Academic Standards Committee).
- Should students not fulfill all of their academic obligations as outlined in the academic probation plan, their performance is evaluated by the committee and a determination is made as to whether the College Academic Alert (see below) process is instituted; however, students are again coded with SAP for that term.

Physical Therapy Probation and College Academic Alert (CAA).

Failure to meet requirements of probation may lead to College Academic Alert (dismissal from the program). Conditions of probation may be prescribed in writing when good academic standing is not maintained (via a hearing). Conditions may also be prescribed in writing in the case of a student whose course performance or failure to follow academic advice warrants such action at any time during the program. All students where conditions of probation have been established are subject to committee review and possible CAA action should they fail to fulfill the specific terms.

In addition, any instance of failing to meet academic standards, regardless of a GPA of 2.400, may result in a College Academic Alert (CAA) action.

Students placed on College Academic Alert cannot register for subsequent courses in the Physical Therapy program and may be removed from any such classes for future terms in which they are registered. Students are notified by letter or email of the committee's decision and of the appeal process. Undergraduate students that are not allowed to continue in the Physical Therapy program but remain in good standing at the university, are allowed to continue in their undergraduate degree course of study.

Students may be dismissed from the Physical Therapy program for failure to maintain professional integrity standards, which may include, but are not limited to:

1. Failure to comply with the American Physical Therapy Association (APTA) Code of Ethics or the APTA Guide of Professional Conduct. (www.apta.org) (<http://www.apta.org>)
2. Failure to comply with learning objectives set forth in a professional behavior learning contract between the student and the program.
3. Failure to complete their undergraduate degree by the end of the spring term of year 5.
4. Clinical misconduct, including, but not limited to:
 - a. Conduct that constitutes harassment, threats or abuse of, or discrimination against peers, faculty, patients or others.
 - b. Provision of physical therapy services, including laboratory experiences in courses, while under the influence of an illegal substance and/or alcohol.
 - c. Breach of patient/client confidentiality.
 - d. Failure to comply with the policies and procedures of the clinical facility during a clinical experience.
 - e. Failure to comply with the Physical Therapy Act for the state in which an internship experience is located.

Violations of the professional integrity requirements result in a hearing with the Academic Standards Committee. Findings of misconduct to self, faculty, the university clinical placements and/or patients may result in failure in the assignment, failure in the course or dismissal from the program. For instances of dismissal from the program, a notation of "Required to Withdraw for Professional Integrity Reasons" appears on the permanent academic record and transcript.

4. Academic Dismissal - Academic Misconduct:

Dismissal for academic misconduct (RWAM) is determined per the Academic Integrity policy (<http://bulletin.marquette.edu/healthscienceprofessional/academicregulations/#academicintegrity>) found in the Academic Regulations section of the Health Sciences Professional bulletin. Once this determination has been made, students are dismissed from the university. This action results in ineligibility to register at Marquette. Reinstatement criteria for students who are dismissed, if applicable, are outlined in the dismissal notice. If students are allowed to return to the university, a permanent notation of 'Reinstated to the University' appears on the academic record and Marquette's official transcript.

Accreditation

The Department of Physical Therapy at Marquette University is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245; email: accreditation@apta.org (accreditation@apta.org); website: <http://www.capteonline.org>. **If needing to contact the program/institution directly, call 414-288-7161 or use email form at <https://www.marquette.edu/physical-therapy/contact-us.php>**

Certification in Basic Life Support

Certification in basic life support that includes child, infant and both one- and two-person adult CPR along with automatic external defibrillator (AED) training is required of all students prior to beginning the fourth year of the D.P.T. program. Continued certification is required to be maintained by the student throughout the D.P.T. curriculum. Failure to maintain current certification may jeopardize enrollment in subsequent PHTH courses and/or clinical assignments. Students should contact their local Heart Association or Red Cross offices.

Emergency Care and Safety

All clinical sites provide the students with safety information including emergency procedures. There may be potential health risks at a clinical site. Students are required to complete yearly OSHA training. Students are not employees of the facility and are not covered by workman's compensation. Students provide proof of health insurance but should also be aware that they are responsible for the cost of any emergency care, unless the injury or illness was due to negligence on the part of the facility. In non-emergency situations, students should expect to be responsible for their own medical care while off campus.

All D.P.T. students are required to attend and provide documentation of completion of yearly OSHA training sessions, which assure that they have received training on OSHA guidelines for blood borne pathogens and universal precautions.

Patient Right to Refuse

Clinical contracts state that patients have the risk-free-right to refuse to participate in clinical education and patients/clients provide informed consent to being involved in the clinical education experience.

Examinations

Students who miss a final examination risk the loss of credit and the possibility of not being able to enroll in subsequent PHTH courses. All such cases are judged by the department chairperson.

Liability Insurance

Even though the university has liability insurance on students while they are in clinical practice situations, some facilities require students to have an additional liability policy. This type of insurance can be obtained through the insurance company used by the American Physical Therapy Association by student members of the association.

Policy for Students Requesting Accommodations

It is the responsibility of students to utilize the Office of Disability Services to identify and request reasonable accommodations in the classroom or laboratory. Students are encouraged to be proactive in addressing their learning needs and to discuss their needs with their instructors as early as possible at the beginning of each term.

Tuition/Financial Aid for Professional Phase

Students who enter physical therapy as freshmen are considered in the pre-professional phase for Years 1-3, and the D.P.T. professional phase for Years 4-6. Full-time students are charged normal undergraduate rates of tuition for Years 1-3. Students are charged the higher professional phase tuition rate in years 4-6. There is no additional tuition payment for summer work. Even though undergraduate students in Year 4 are considered in the professional phase of the program, they may still apply for financial aid available to Marquette undergraduate students. When physical therapy students complete their undergraduate degree, they can no longer be considered for undergraduate sources of financial aid.

Withdrawal from the Physical Therapy Program

Withdrawal from the program is achieved through a written request submitted to the chairperson of the Department of Physical Therapy. Students considering withdrawing from the physical therapy program are encouraged to meet with the chairperson of the Department of Physical Therapy or their adviser prior to making a final decision.

Other Academic Regulations

For additional information on other College of Health Sciences regulations, see the College Academic Regulations (<http://bulletin.marquette.edu/healthscienceprofessional/academicregulations>) section of this bulletin.

Physical Therapy

Typical Professional Program — Physical Therapy Degree: D.P.T. ¹

DPT 4

First Term	Hours	Second Term	Hours	Summer Term	Hours
BISC 7130	5	PHTH 7120	2	PHTH 7522	2
BIOL 4701 ^{2, 3}	4	PHTH 7504	2	PHTH 7539	3
PHTH 4512	3	PHTH 7515	4	PHTH 7549	2
PHTH 7503	3	PHTH 7516	2	PHTH 7560	4
PHTH 7513	3	PHTH 7525	3	PHTH 7577	2
Medical Ethics ⁴	1	PHTH 7528	2		
	19		15		13

DPT 5

First Term	Hours	Second Term	Hours	Summer Term	Hours
PHTH 7518	3	PHTH 7530	2	PHTH 7986 (section 102)	10
PHTH 7505	2	PHTH 7533	4		
PHTH 7532	4	PHTH 7555	2		
PHTH 7526	3	PHTH 7558	4		
PHTH 7986 (Section 101)	4	PHTH 7570	4		

	PHTH 7667	2	
	16	18	10
DPT 6			
First Term	Hours	Second Term	Hours
PHTH 7523	2	PHTH 7986 (section 103)	9
PHTH 7668	4	PHTH 7986 (section 104)	9
PHTH 7675	4		
PHTH 7682	3		
PHTH 7684	2		
PHTH 7932 (not required for DPT degree)	0-2		
	15-17	18	

Total credit hours: 124-126

- 1 Students admitted without a completed bachelor's degree must receive their bachelor's degree by the end of the spring term of the DPT5 year in the professional phase (years 4, 5 and 6) of the program.
- 2 Either BIOL 4701 Human Physiology or BISC 4145 Human Physiology (taken prior to the DPT4 year) fulfills the physiology requirement for the DPT program.
- 3 Students in the BISC major will have completed BISC 4145 Human Physiology in place of BIOL 4701 Human Physiology. The fall course schedule has been designed to accommodate the addition of BISC 4160 Molecular Pathology for BISC Majors. Other BISC courses may be possible as allowed by the DPT course schedule.
- 4 Required only for students who have not previously completed medical ethics (PHIL 4336 Applied Ethics for the Health Sciences, PHIL 4335 Biomedical Ethics, HEAL 3200 Bioethics for Healthcare: Foundations, Dilemmas and Decision-Making or THEO 4450 Medical Ethics) prior to the DPT4 year.

Courses

PHTH 7120. Pharmacology in Physical Therapy. 2 cr. hrs.

Pharmacological study to help physical therapy students understand the indications, mechanism of action, and common side effects of medications. Includes a study of a patient's/client's prescription and nonprescription medications and the relationship between medications and physical therapy interventions to improve patient/client outcomes. Further investigates therapeutic and adverse effects as well as drug interactions. Based on an understanding of neurotransmitters and disease pathology, medications used for the most common physical therapy diagnoses are reviewed. Prereq: PHTH major.

PHTH 7503. Patient Management 1. 3 cr. hrs.

Lecture/laboratory course simulating patient interactions and discussing learning units that enforce application of course work to clinical practice. Prereq: PHTH major.

PHTH 7504. Patient Management 2. 2 cr. hrs.

Lecture/laboratory course simulating patient interactions and discussing learning units that enforce application of course work to clinical practice. Patient Management course sequence cannot proceed if students have not successfully completed all required DPT4 coursework (preceding or concurrent). Prereq: PHTH major.

PHTH 7505. Patient Management 3. 2 cr. hrs.

Lecture/laboratory course simulating patient interactions and discussing learning units that enforce application of course work to clinical practice. Prereq: PHTH major; and concurrent enrollment in PHTH 7986.

PHTH 7513. Health Care Policy/Management. 3 cr. hrs.

Contemporary issues and management principles in physical therapy practice. Discussions of recent historical and current external environmental factors affecting the delivery of health care services are interwoven with discussions of business, management, and supervisor/leadership principles applicable to the health care service industry. Particular attention is focused on the delivery of physical therapy services under changing environmental conditions. Prereq: PHTH major; or cons. of instr.

PHTH 7515. Clinical Pathology and Pathophysiology. 4 cr. hrs.

Lecture/clinical observations course presents the pathology and pathophysiology of the cardiovascular, pulmonary, renal, endocrine and immune system disorders. Limited introduction to oncology and the pathophysiological disorders of the nervous system. Included are the physical therapy implications of normal aging and disease with an emphasis on the pathological changes and the physiological aspects of each. Pharmacological and other medical interventions are discussed and integrated with material concurrently presented in other courses. Prereq: PHTH major and BIOL 3701 or BISC 4145.

PHTH 7516. Geriatric Rehabilitation. 2 cr. hrs.

Lecture/lab course discusses the implications of aging, disease, physical therapy assessment and interventions and rehabilitation approaches. The laboratory portion includes psychological, sociological and economic aspects of aging plus selected pathological conditions that affect communication, compliance and functional performance. Provides opportunities to refine clinical and problem solving skills in supervised laboratory sessions and supervised clinical experiences in senior center environments. Prereq: PHTH major, Physiology and current enrollment in PHTH 7515.

PHTH 7518. Physiology of Activity. 3 cr. hrs.

This lecture/laboratory course will concentrate on the assessment of activity tolerance in, and basic principles of, exercise prescriptions for normal healthy individuals through the life span who are either trained or untrained. A functional approach will be emphasized and factors that enhance or impede performance will be examined. Various training strategies will be introduced. Prereq: PHTH major and PHTH 7515; or enrolled in Health Sciences - Professional and PHTH 7515; and current certification in CPR for the health care provider.

PHTH 7522. Introduction to Evidence Based Decision Making in Clinical Practice. 2 cr. hrs.

Teaches physical therapy students how to provide the best possible care for patients according to an evidence based practice model, which integrates clinical experience, external evidence, and patient expectations. Students will learn how to formulate answerable clinical questions, use online databases to access research evidence, critically evaluate clinical and scientific literature related to patient care, integrate and apply the best evidence for practice, and use these skills to become life long learners. Instruction methods include lectures, in class discussions, hands on activities, and student presentations. Prereq: Major in Physical Therapy.

PHTH 7523. Applied Evidence Based Decision Making. 1-2 cr. hrs.

Evidence-based practice applied to clinical content areas, including orthopedics. Web based assignments. Students complete individual projects and present their work. Prereq: PHTH major and PHTH 7522.

PHTH 7525. Kinesiology 1: The Upper Extremity. 3 cr. hrs.

Anatomy of the muscular and joint systems in normal and abnormal conditions in the upper extremities. Includes surface anatomy, the biomechanics of normal and abnormal muscle and joint action. Lecture, demonstration and laboratory practice. Prereq: PHTH major and BISC 7130 or equiv.

PHTH 7526. Kinesiology 2: The Spine and Lower Extremity. 3 cr. hrs.

Continuation of PHTH 7525 with emphasis on head, trunk and lower extremities, including an introduction to normal gait, posture, and surface anatomy. Lecture, demonstration and laboratory practice. Prereq: PHTH 7525.

PHTH 7528. Physical Therapy Evaluation, Tests and Measures. 2 cr. hrs.

Lecture and clinical laboratory course. The students will learn the general concepts and specific techniques of Physical Therapy evaluation including tests and measures including range of motion, flexibility and strength using diverse instrumentation. Prereq: PHTH major and BISC 7130 or BISC 2135 and BISC2136.

PHTH 7530. Pain Mechanisms and Treatment. 2 cr. hrs.

Lecture and discussion course (based on research evidence and/or best practice) that presents the principles and methods that lead to clinical outcomes related to pain conditions including the theoretical models for understanding the basis for pain. Content includes pain mechanisms, assessment and physical therapy management. Prereq: PHTH Major and PHTH 7558, which may be taken concurrently.

PHTH 7532. Orthopedics 1. 4 cr. hrs.

Lecture, demonstration and laboratory experiences. The elements of patient/client management (examination; evaluation; diagnosis; prognosis; and intervention) are applied to musculoskeletal conditions. Prereq: PHTH major and PHTH 7525; and concurrent enrollment in PHTH 7526.

PHTH 7533. Orthopedics 2. 4 cr. hrs.

Continuation of PHTH 7532 with an emphasis on the evaluation and treatment of specific musculoskeletal injuries/dysfunctions. Includes surgical, non-surgical, traumatic, chronic and sports-related conditions. 7000 level course contains enhanced content. Prereq: PHTH 7532 and PHTH 7526.

PHTH 7539. Diagnostic Imaging Testing. 3 cr. hrs.

Study of diagnostic imaging techniques as they relate to physical therapy practice areas. Includes study of common medical tests.

PHTH 7549. Differential Diagnosis: Screening for Medical Referral. 2 cr. hrs.

Lecture course focusing on a broad range of medical diseases and their various clinical presentations. The focus is on the use of clinical decision making skills when analyzing a patient's medical history intake and the review of systems. Addresses screening, to include referral for conditions or diseases that are not within a physical therapist's scope of practice. Prereq: PHTH major and PHTH 7515 with C or better.

PHTH 7555. Introduction to Pediatrics: Development and Assessment. 2 cr. hrs.

Introduction to Pediatrics focuses on the physical development that occurs from birth to maturity, specifically motor development, but other developmental areas will be discussed as well. Students are introduced to the internal and external environmental influences on development, as well as, traditional and contemporary theories of motor development. Lab experiences focus on analysis of posture/movement, gross motor testing, the child health screening and child wellness education. Evidence-based practice guidelines are utilized when available, and objective tests and measures will be taught and emphasized. Completion of PHTH 7555 fulfills one of the essential core competencies of entry-level pediatric physical therapy education as outlined in Pediatric Physical Therapy by the Academy of Pediatric Physical Therapy. Prereq: PHTH major and BISC 7130, PHTH 7525, PHTH 7526.

PHTH 7558. Neuroanatomy. 4 cr. hrs.

Structure and function of the central nervous system (CNS). Lecture, clinical correlations, clinical problem solving to predict signs and symptoms in patients with PNS and CNS lesions. Prereq: PHTH major or PHAS major.

PHTH 7560. Physical Technologies/Electrotherapy/Electrophysiological Testing. 4 cr. hrs.

Lecture and clinical laboratory course (based on research evidence and/or best practice) that presents the physical and physiological basis and the principles and methods that lead to: 1. clinical outcomes following the therapeutic application of thermotherapy, cryotherapy, actinotherapy and mechanotherapy in the treatment of disorders involving the musculoskeletal, neuromuscular, cardiovascular and integumentary systems and 2. for electrotherapeutic interventions for clinical treatment of individuals with musculoskeletal dysfunction, motor control deficits, acute and chronic pain, and other selected conditions. Electrophysiological testing will include electromyography and nerve conduction velocity evaluation. Prereq: PHTH major.

PHTH 7570. Advanced Biomechanics and Kinesiology. 4 cr. hrs.

Advanced analysis of human movement including gait, orthotics and prosthetics. Rehabilitation focuses on physical therapy interventions for patient/clients with chronic diseases and other conditions necessitating long-term therapeutic intervention. Prereq: PHTH major; PHTH 7525 and 7526 with C or better.

PHTH 7577. Wound/Integumentary Physical Therapy. 2 cr. hrs.

Lecture and clinical laboratory course (based on research evidence and/or best practice) that presents the physical and physiological basis and the principles and methods that lead to clinical outcomes related to the integumentary system. Content will include pathophysiology, diagnosis and management of chronic wounds, management of thermal injuries and edema. The course will also include infection control and aseptic technique. Prereq: PHTH major.

PHTH 7667. Neurological Rehabilitation 1. 2 cr. hrs.

Lecture and discussion-based course covering the pathology, etiology, and epidemiology of common neurological diseases. Clinical presentation, differential diagnosis, evaluation, and medical/surgical interventions for the diseases are the focus of the first of a 2 part course series. Prereq: PHTH major and successful completion or concurrent enrollment in PHTH 7558.

PHTH 7668. Neurological Rehabilitation 2. 4 cr. hrs.

Continuation of Neurological Rehabilitation 1. Lectures and labs focus on physical therapy interventions for specific impairments, disease-specific conditions, and overall function. Evidence-based practice guidelines are utilized when available, objective tests and measures are emphasized, and case studies are utilized to integrate and apply information. Prereq: PHTH major, successful completion of PHTH 7667 and PHTH 7558.

PHTH 7674. Critically Appraising and Contributing to the Evidence for Clinical Practice. 3 cr. hrs.

Course is a culmination of the skills and knowledge obtained in PHTH 7522 and 7523 and prepares students for leadership roles in physical therapy. Students hone their skills at reading and critically evaluating the clinical and scientific literature. In so doing, student become familiar with the evidence for practice in several emerging areas of physical therapy. Students also learn to lead and participate in journal clubs, provide effective peer review, contribute to the evidence for practice, and communicate novel ideas to the physical therapy community. Instruction methods include lectures, journal clubs, and writing workshops. As a capstone project students will author papers comparable to those seen in the journal of the American Physical Therapy Association and present their work to the physical therapy community. Prereq: PHTH major; PHTH 7522 and PHTH 7523.

PHTH 7675. Pediatric Disorders and Intervention Strategies. 4 cr. hrs.

Developmental disabilities and other selected pediatric disorders are covered. Concepts of physical therapy evaluation, assessment, goal setting and treatment of the pediatric patient; common treatment theories and techniques and their application to children. Current cultural, ethical, and legal issues related to health care and children. Prereq: PHTH 7555.

PHTH 7682. Cardiovascular and Pulmonary Physical Therapy. 3 cr. hrs.

Lecture/laboratory course that focuses on recuperative/restorative management of clients having primary or secondary involvement of the cardiovascular and/or pulmonary systems. A total gas delivery approach is emphasized through case presentations. Clinical skills to be taught consistent with nationally published Clinical Practice Guidelines that are evidence-based. Prereq: PHTH major; certification in Basic Life Support (CPR); PHTH 7515 and 7518 with C or better.

PHTH 7684. Clinical Issues and Decision Making. 2 cr. hrs.

Lecture course with occasional joint labs with the DPT-5 students during class time. The emphasis of this course is to examine and discuss current issues and trends in physical therapy practice, and to mentor DPT-5 students. Topics include patient and professional advocacy, autonomous practice, ethics, jurisprudence, reimbursement, applying the Guide to Physical Therapist Practice to a complex multi-system patient case, resume writing, interview skills, and assessment for learning. Additionally, a representative from the Department of Regulation and Licensing will address the licensing process. Prereq: PHTH 7523.

PHTH 7932. Advanced Topics in Physical Therapy. 0-4 cr. hrs.

Advanced clinical electives in specific areas of physical therapy practice. Prereq: PHTH major; or cons. of instr.0 credit will be SNC/UNC grade assessment; 1-4 credits will be graded.

PHTH 7986. Internship in Physical Therapy. 2-10 cr. hrs.

Full time experiences supervised by clinical faculty that immerse students in various practice settings throughout the country Prereq: PHTH major; must be taken in PHTH course sequence.

PHTH 7995. Independent Study in Physical Therapy. 1-3 cr. hrs.

Independent study and research in special areas of interest in physical therapy under faculty supervision. No mid-term assessment assigned. Prereq: PHTH major, cons. of instr., and cons. of dept. chair.