HEALTH CARE SCIENCES

Interim Chairperson: Diane Adamo

The Department of Health Care Sciences consists of six programs that share a common theme of excellence in the education and training of those involved in patient care. The department is housed in the Eugene Applebaum College of Pharmacy and Health Sciences (EACPHS) building which is near main, large health care institutions and close to the Wayne State University Medical School. Many of the department's faculty, who are involved in health care related research, offer students opportunities to assist in research. This has enabled greater appreciation for health care management and clinical decision-making.

Occupational Therapy

BANFILL, KIMBERLY: O.T.D., Chatham University, M.O.T, B.S., Wayne State University; Assistant Professor

DIZAZZO-MILLER, ROSANNE: Ph.D., Nova Southeastern University; M.O.T., Eastern Michigan University; B.A., Adrian College; Associate Professor

HEAD, DOREEN P.: Ph.D., M.S., Wayne State University; B.S., Eastern Michigan University; Assistant Professor (Clinical) and Program Director

KIVLEN, CHRISTINE: Ph.D., Nova Southeastern University; M.S., B.A., Wayne State University; Assistant Professor

LYSACK, CATHERINE L.: Ph.D., B.A., B.M.R., University of Manitoba; M.Sc., Queen's University; Professor

PANZA, GINO: Ph.D., George Mason University; M.A., Central Michigan University, B.A., Adrian College; Assistant Professor

PARNELL, REGINA: Ph.D., Wayne State University; M.S., Rush University; B.S., Loyola University; Clinical Assistant Professor

SAMUEL, PREETHY : Ph.D., Wayne State University; M.O.T., Loma Linda University; B.O.T., Christian Medical College; Associate Professor

TARRAF, WASSIM: Ph.D., M.B.A., Wayne State University; B.S., Lebanese American University; Assistant Professor

Physical Therapy

ADAMO, DIANE: Ph.D., University of Michigan; M.S., B.S., Wayne State University; Associate Professor

DICKSON, JENNIFER: D.P.T., M.P.T., B.S., Oakland University; Clinical Assistant Professor

FRITZ, NORA E.: Ph.D., D.P.T., The Ohio State University; B.S., Miami University; Associate Professor

HANNUM, NANETTE: D.P.T., Grand Valley State University; B.S., Belhaven College; Assistant Professor (Clinical)

MAHER, SARA F.: D.Sc.P.T., Oakland University; Ph.D., M.P.T., B.S., Wayne State University; B.A., Western Michigan University; Professor (Clinical)

MALEK, MOH: Ph.D., University of Nebraska-Lincoln; M.S., California State University Fullerton; B.A., The Claremont Colleges, Pitzer College; Professor

MOUL, ANDREW: D.P.T., Wayne State University; Assistant Professor (Clinical)

PARDO, VICKY: D.H.S., University of Indianapolis; M.H.S., University of Indianapolis; B.Sc., University of Ottawa; Associate Professor

PEPIN, MARIE-EVE: D.P.T., MGH Institute of Health Sciences; M.S., Oakland University; B.S., McGill University; Clinical Assistant Professor

POCIASK, FREDRICK: Ph.D., Wayne State University; M.S., B.S., Oakland University; Associate Professor

REID, KRISTINA: D.P.T., Wayne State University, M.S, P.T., Oakland University; Assistant Professor (Clinical)

ROCHE, JOSEPH A.: Ph.D., University of Maryland, Baltimore; B.P.T., Christian Medical College; Associate Professor

SCHILLER, MARTHA: D.P.T., University of St. Augustine; M.S.A., Central Michigan University; B.S. University of Western Ontario; Clinical Assistant Professor

Radiation Therapy Technology

GREER, JEANNETTA M.: M.S, B.S.R.T(T), Wayne State University; Director (Academic)

KAGEN, ALISA A.: M.S.A., Central Michigan University; B.S.R.T(T), Wayne State University; Clinical Assistant Professor

- Physical Therapy Concentration (B.H.S.) (http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/health-care-sciences/physical-therapy-concentration-bhs/)
- Radiation Therapy Technology (B.S.) (http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/health-care-sciences/radiation-therapy-technology-bs/)
- Radiologic Technology (B.S.) (http://bulletins.wayne.edu/undergraduate/college-pharmacy-health-sciences/health-care-sciences/radiologic-technology-bs/)

Occupational Therapy

OT 4990 Directed Study Cr. 1-2
Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 5 Credits

OT 5010 Foundations of Occupational Therapy and Occupational Science Cr. 4
Provides an introduction to occupation, the history and philosophy of occupational therapy, evidence and theoretical models that guide the profession, the sociocultural forces that influence occupation, and the processes and procedures utilized by the occupational therapist. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $50

OT 5030 Health Conditions II: Mental Health Cr. 4
Major categories of psychiatric conditions throughout the lifespan are presented. Diagnostic criteria and treatment strategies in traditional and community settings are presented with fieldwork requirements. Guest lectures from medical and community settings present on mental health conditions and implications. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5045 Therapeutic Media Cr. 2
The performance, adaptation and utilization of processes involved in selected creative and manual tasks and activities, which have therapeutic value for individuals across the lifespan. Included are principles and methods of teaching appropriate to the role of the occupational therapist. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5055 Life Occupations I Cr. 3
The first of two life occupations courses across the lifespan focuses on self care based on the Occupational Therapy Practice Framework III. Students will examine areas of occupation and develop assessment and intervention strategies while refining documentation skills. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5065 Life Occupations II Cr. 3
Role of leisure in health, wellness, prevention and rehabilitation; focus: across the life span. Explores and develops assessment tools, treatment plans for diverse populations; includes experiential learning. Second of two courses. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $50

OT 5150 Cognition and Visual Perception Cr. 3
Offers further information regarding control of movement, forms of learning, sensory-perceptual processing, and cognitive processing for engagement in meaningful occupation. Offered Yearly.

OT 5220 Therapeutic Media Cr. 2
The performance, adaptation and utilization of processes involved in selected creative and manual tasks and activities, which have therapeutic value for individuals across the lifespan. Included are principles and methods of teaching appropriate to the role of the occupational therapist. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5300 Surface Anatomy for Occupational Therapy Cr. 2
Students will: 1) practice and develop palpation skills, 2) locate bony landmarks, muscles, tendons, joints, ligaments, nerves, and arteries on the living human body, 3) appreciate differences of a variety of tissue types. Offered Fall.
Prerequisites: OT 5505 (may be taken concurrently) and OT 5510 (may be taken concurrently)

OT 5310 Movement Assessment and Intervention Cr. 4
Emphasizes theory and motor skill learning related to movement assessment including range of motion, strength, sensation, and coordination. While upper limb assessment is emphasized, it is expected that the student will be able to use available resources to assess the lower limb, trunk, neck and head as needed. Principles of and motor skills for intervention in each area will also be addressed. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $30

OT 5400 Neurosciences for Health Care Professionals Cr. 3
Study of the human central nervous system; emphasis on sensory and motor systems and structures that contribute to normal movement. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $50
Equivalent: PT 5400

OT 5410 Health Conditions I: Physical Disabilities Cr. 4
A series of interdisciplinary presentations on the clinical manifestations and management of selected problems due to disease states or injury; includes etiology, assessment, course and medical specialty management of the problems. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5420 Health Conditions II: Mental Health Cr. 4
Major categories of psychiatric conditions throughout the lifespan are presented. Diagnostic criteria and treatment strategies in traditional and community settings are presented with fieldwork requirements. Guest lectures from medical and community settings present on mental health conditions and implications. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5500 Aging: From Community to Longterm Care Cr. 3
The goal of the course is to strengthen knowledge and skills in aging and geriatric rehabilitation. Content includes: successful aging, age-related health conditions, gerontology research for OTs, at risk older adults, assisted living and long term care, policy and legislation. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Occupational Therapy; enrollment is limited to Graduate or Undergraduate level students.

OT 5505 Clinical Applications of Human Anatomy Cr. 3
Knowledge of basic human anatomy for students in health science professional programs; foundation for further study in clinical sciences. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Occupational Therapy or Physical Therapy.
Equivalent: PT 5505

OT 5510 Clinical Applications of Human Anatomy: Laboratory Cr. 1
Examination of prosections, dissection of human cadavers; didactic study. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $200
Equivalent: PT 5510

OT 5520 Foundations of Occupational Therapy and Occupational Science Cr. 3
An introduction to occupation, the history and philosophy of occupational therapy, evidence and theoretical models that guide the profession, the sociocultural forces that influence occupation, and the processes and procedures utilized by the occupational therapist. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5530 Health Conditions I: Physical Disabilities Cr. 4
This course introduces students to clinical manifestations and management of selected problems due to disease states or injury; includes etiology, assessment, course, and medical specialty management of the problems using the lens of occupational therapy practice framework. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5540 Health Conditions II: Mental Health Cr. 4
Major categories of psychiatric conditions throughout the lifespan are presented. Diagnostic criteria and treatment strategies in traditional and community settings are presented with fieldwork requirements. Guest lectures from medical and community settings present on mental health conditions and implications. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5550 Therapeutic Media Cr. 2
The performance, adaptation and utilization of processes involved in selected creative and manual tasks and activities, which have therapeutic value for individuals across the lifespan. Included are principles and methods of teaching, appropriate to the role of the occupational therapist Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5560 Surface Anatomy for Occupational Therapy Cr. 2
Laboratory based course featuring surface anatomy. The students will 1) practice and develop palpation skills, 2) locate bony landmarks, muscles, tendons, joints, ligaments, nerves, and arteries on the living human body, and 3) appreciate differences of a variety of tissue types. Offered Spring/Summer.
Prerequisites: OT 7080 with a minimum grade of C (may be taken concurrently) and OT 7085 with a minimum grade of C (may be taken concurrently)

OT 5570 Clinical Applications of Human Anatomy Cr. 3
Examination of the human body using online applications including: Acland's anatomy, Visible bodies app, Gary's Anatomy, NetAnatomy and AnatomyTV. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Occupational Therapy or Physical Therapy.

OT 5580 Clinical Applications of Human Anatomy: Laboratory Cr. 1
Examination of prosections, dissection of human cadavers; didactic study. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5610 Group Dynamics Cr. 5
Experiential approach to learning group dynamics and achieving skills necessary for conducting effective therapeutic groups for a variety of clinical and community settings. Development of self awareness and social skills necessary in building practical group skill in occupational therapy intervention. Level I fieldwork experiences. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $50

OT 5620 Life Occupations Self Care Cr. 3
The first of two life occupations courses across the lifespan focuses on self care based on the Occupational Therapy Practice Framework III. Students will examine areas of occupation and develop assessment and intervention strategies while refining documentation skills. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5625 Life Occupations Self Care Lab Cr. 1
The life occupations lab course provides students the opportunity to practice assessments and interventions for patient self care based on the Occupational Therapy Practice Framework. Students will examine areas of occupation and develop assessment and intervention strategies while refining documentation skills. Offered Spring/Summer.

OT 5630 Movement Assessment and Intervention Cr. 4
This course is taken during the third semester of the first year of the OTD program, and centers on frames of references applicable to assessments involving principles of kinesiology and application of these principles with preliminary interventions. Core concepts and major assumptions of the biomechanical frame of reference are specifically reviewed. Students then learn assessment procedures involving sensation, range of motion, manual muscle testing, and coordination. Students are required to perform and pass competencies for each of the main areas of assessment explored. Finally, students are required to create an online-module for case managers in a specific setting and peers are required to work through classmates' modules to learn both instructional design skillset and knowledge of the role of a case manager. Offered Fall.
Prerequisite: OT 5570 with a minimum grade of C and OT 5580 with a minimum grade of C

OT 5640 Neuroscience for Health Care Professionals Cr. 3
This is a course on Neuroscience for health care professionals that will cover fundamentals of neuroanatomy and neurophysiology. We will explore the structure and function of the human nervous system in the context of clinical conditions of relevance to occupational therapy. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5650 Pathophysiology for Health Sciences Cr. 3
Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Equivalent: PT 5650, RT 5650

OT 5993 Writing Intensive Seminar in Occupational Therapy Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with designated corequisite; consult Schedule of Classes for corequisites available each term. Satisfies University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisite: OT 3000 (may be taken concurrently) with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 6060 Occupational Therapy Research I Cr. 3
Introduces graduate level students to the logic of scientific research. In particular, students will learn about the process of scientific inquiry in the health sciences in general and occupational therapy specifically. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6065 Occupational Therapy Research II Cr. 1
The second course in the three-course research thread, Research II is taken with the support of OT faculty members conducting research in an area of interest to the student. Students will work with the faculty member to further refine their literature review (completed in Research I) and develop a problem statement and research questions. Students will also work with a faculty mentor to submit or review IRB for the study/area of interest. Offered Spring/Summer.
Prerequisite: OT 6060
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6070 Occupational Therapy Research III Cr. 2
Application of research principles and methods to solving occupational therapy problems. Offered Fall.
Prerequisite: OT 6060 and OT 6065
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $15

OT 6090 Directed Research Cr. 1-4
Opportunity to conduct supervised research and to participate in research activities of a mentor. Offered Every Term.
Prerequisite: OT 6070
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 8 Credits

OT 6100 Occupational Therapy Assessments and Interventions I (Ortho) Cr. 5
Examines OT assessments and interventions and how they impact an individual's life occupations. The emphasis of this course in on musculoskeletal and orthopedic diagnoses. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6140 Environment, Occupation and Health Cr. 3
Through this course, we bring the study of environments and places to the forefront and examine their dynamic relationship with occupation and health. The foci of the course are several. We will develop an understanding of the importance and complexity of " environment" and "place" as concepts. We will use that understanding to examine some key types of environments and places through which occupation occurs. We also will assess the role of environments and places in occupation, disability, therapy, and well-being. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6160 Occupational Therapy Research I Cr. 4
Introduces graduate level students to the logic of scientific research. In particular, students will learn about the process of scientific inquiry in the health sciences in general and occupational therapy specifically. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 6200 Occupational Therapy Assessments and Interventions II Cr. 5
This course offers didactic and practical learning experience designed to bridge the gap between physical disabilities, theory and practice focused on assessments and interventions for neurological diagnoses with a specialized section on hand therapy. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $67

OT 6210 Occupational Therapy Practice in Aging Cr. 3
Covers the concepts and the process of aging and the role of occupational therapy with adults impacted by changing physical health and cognitive capacities and environments. Focuses on the effects of major late life transitions including, for example, retirement from paid employment, driving cessation, household downsizing and caregiving. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 6230 Motor Control Cr. 3
Current theories of motor control and motor learning; recovery of function and normal movement across the lifespan. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6300 Occupational Therapy Assessments and Interventions III (Pediatric) Cr. 5
Occupation-based therapeutic activities, intervention strategies, documentation skills, and discharge planning that promotes client-centered outcome; the focus is on development birth through young adulthood. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $65

OT 6320 Patient Perspectives of Health, Illness and Culture Cr. 2
People from various cultures (religious, ethnic, sexual orientation, disability, chronic illness, economic status) discuss in small groups how these cultures influence living with a chronic illness. Students also discuss readings on health culture and keep a journal on their course experience. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Equivalent: PPR 6300

Physical Therapy

PT 5010 Clinical Applications I Cr. 1
First part-time integrated clinical experience for physical therapy students. Orientation to clinical education and PT practice to develop professional behaviors, observation skills, fundamentals of written and verbal communication and basic examination and intervention skills in a clinical setting. Offered Winter.
Fees: $20

PT 5020 Foundations of Physical Therapy Cr. 2
Satisfies General Education Requirement: Writing Intensive Competency
Sociological and historical background of the PT profession. Professional behavior, patient care interaction and medical terminology. Basic physical therapy care procedures, documentation, patient education, care in medical emergencies. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $90

PT 5030 Basic Patient Care in Physical Therapy Cr. 2
Introduction to the basic skills necessary for patient care and provide a foundation to the theory and practice of basic patient care procedures for the Physical Therapist. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Physical Therapy degree; enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $25

PT 5070 Clinical Applications II Cr. 2
Second part-time integrated clinical experience for physical therapy students. This clinical education course includes and orientation to basic and intermediate examination and intervention skills, professional behavior, communication, documentation, inter-professional collaboration and team work. Offered Fall.
Prerequisite: PT 5010 (may be taken concurrently)
Fees: $30

PT 5100 Therapeutic Exercise I Cr. 3
Foundational course designed to focus on the principles and techniques of therapeutic exercise for patients with pathological conditions to the neuromusculoskeletal system. Students will develop and administer treatment plans for specific patient problems and progress treatment plans based on patient condition and response to treatment. Offered Fall.
Prerequisite: PT 5430 and PT 5500
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $100

PT 5120 Human Growth and Development Cr. 2
Theories and basic principles in prenatal, physical, sensorimotor, perceptual, cognitive, social, emotional and language growth and development. Implications for physical therapy evaluation and treatment of children with developmental disabilities. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $10

PT 5300 Surface Anatomy Cr. 2
Laboratory-based course teaching skills for soft tissue palpation, identification of surface anatomy landmarks, soft tissue mobilization and massage. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 5320 Basic Examination and Evaluation Procedures Cr. 3
Lecture and laboratory experience focusing on principles and procedures of foundational medical screening, physical therapy differentiation, and clinical reasoning and decision-making skills; basic principles and techniques for posture, integumentary, neurological, range of motion, and strength examination and evaluation, documenting progress and outcome, and the continued development of patient care skills. Offered Winter.
Prerequisite: PT 5030 and PT 5300 and PT 5505
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $10

PT 5400 Neurosciences for Health Care Professionals Cr. 3
Study of the human central nervous system; emphasis on sensory and motor systems and structures that contribute to normal movement. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $50
Equivalent: OT 5400

PT 5410 Clinical Medicine I Cr. 3
Designed to provide specific information needed by the physical therapist treating patients with a variety of diseases. Pathology, etiology, clinical signs and symptoms, prognosis, and treatment of a variety of illnesses and conditions relevant to physical therapy treatment are covered. The role of other health care specialists including physician, occupational therapist, speech pathologist, nurses and psychologists is explored. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.

PT 5430 Clinical Medicine II Cr. 1
Disease processes, and medical and surgical interventions. Role of physical therapy as part of comprehensive multi-disciplinary health care team. Offered Spring/Summer.
Prerequisite: PT 5410
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.

PT 5500 Kinesiology and Biomechanics Cr. 3
Normal movement and biomechanics applied to the human body. Offered Winter.
Prerequisite: PT 5505 and PT 5510 and PT 5400
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $20

PT 5505 Clinical Applications of Human Anatomy Cr. 3
Knowledge of basic human anatomy for students in health science professional programs; foundation for further study in clinical sciences. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Occupational Therapy or Physical Therapy.
Equivalent: OT 5505

PT 5510 Clinical Applications of Human Anatomy: Laboratory Cr. 1
Examination of prosections, dissection of human cadavers; didactic study. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $220
Equivalent: OT 5510

PT 5650 Pathophysiology for Health Sciences Cr. 3
Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Equivalent: OT 5650, RT 5650

PT 5660 Pathokinesiology Cr. 2
Acontinuation of PT 5500 (Kinesiology and Biomechanics), this course is designed to teach: foundational principles regarding biomaterials, key biomechanical and kinesiological principles of human movement as related to anatomy and physiology, and application of this information to clinical situations that involve alterations in movement. Analyses of pathological motion and pathokinesiology of selected joints will be included. Offered Spring/Summer.
Prerequisite: PT 5500
Corequisite: PT 5670
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $10

PT 5670 Special Test in Physical Therapy Cr. 1
A continuation of PT 5300 (Basic Evaluation), this course is designed to teach Special Test as part of a physical therapy examination. Student will relate the special tests to appropriate pathologies, perform and interpret the results of special tests and discuss hypotheses in light of evidence-based knowledge. Offered Spring/Summer.
Prerequisite: PT 5300
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 5800 Clinical Education I Cr. 3
First of a four-course clinical education series. Six weeks of full-time supervised clinical experience for physical therapy students. Offered Yearly.
Fees: $20

PT 5820 Clinical Education II Cr. 3
Second of a four-course clinical education series. Six-week of full-time supervised clinical experience for physical therapy students. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Doctor of Physical Therapy program.
Fees: $45

PT 5990 Directed Study Cr. 1-4
The remediation directed study has been designed to help students remediate for academic or clinical competency standards in the Physical Therapy program. The student will identify, based on performance areas of weakness on course content or clinical skills. Once identified a faculty mentor will assist the student in developing a plan to develop mastery of the content or clinical skills needed to be deemed competent in deficient areas and continue in the PT program. The remediation plan will then be implemented by the student. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 8 Credits

PT 6100 Therapeutic Exercise II Cr. 3
Advanced application of principles and techniques of therapeutic exercise; evaluation and modification of therapeutic exercise plan of care, based on physical and functional responses and characteristics of patients or clients. Offered Fall.
Prerequisite: PT 5100
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Fees: $15

PT 6300 Research I: Critical Thinking Cr. 2
Introduction to evidence-based practice and clinical reasoning and decision making. Identification, location, critique and analysis of evidence. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the Doctor of Physical Therapy program.

PT 6310 Advanced Exercise Physiology Cr. 2
Metabolic, neuromuscular, cardiovascular, and respiratory adjustments to acute and chronic exercise in health and disease, including body composition and weight control, nutritional considerations, and the effects of different environments on exercise performance. Offered Fall.
Equivalent: KIN 6310, PSL 6010

PT 6410 Special Topics in Physical Therapy I Cr. 2
This course will cover the topics of teaching and learning, professionalism, cultural sensitivity and being successful as a physical therapy graduate student. Offered Spring/Summer.

PT 6420 Special Topics in Physical Therapy II Cr. 2
This course will cover the topics as related to the Physical Therapy including, Legal and Ethical Issues, Mental Health Considerations, and Complementary Therapies in Rehab. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.

PT 6430 Special Topics in Physical Therapy III Cr. 2
This course will cover advance topics as related to the Physical Therapy including, Diversity and Implicit Bias, Oncology, and professional and individual aspects related to the transition from student to clinician. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.

PT 6500 Pharmacology Cr. 2
Effects of drug distribution, absorption and excretion as pertaining to physical therapy. Major drug categories, OTC, and nutritional supplements, pertinent to acute and chronic responses to physical therapy; indications, mechanisms, effects. Offered Fall.
Prerequisite: PT 5430 and PT 5650
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6700 Motor Learning and Motor Control Cr. 2-3
Current theories and concepts in processes of motor skill acquisition and performance, from a behavioral objective. Additional evidence-based case reports required if elected for three credits. Offered Winter.
Prerequisite: PT 5400 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

Radiation Therapy Technology

RT 3000 Concepts of Clinical Care Cr. 3
Procedures and ethics related to the care and examination of the radiation oncology patient. Topics include: basic pharmacology, drug administration, pain management, treatment side effects and their management. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $25

RT 3010 Introductory Radiation Physics Cr. 3
Basic introduction of radiation physics including the x-ray machine, physical principles and circuitry; principles of mathematics. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 3020 Clinical Radiation Physics Cr. 3
Principles of radiation exposure; radiation producing and measuring devices; clinical application of radiation physics. Offered Winter.
Prerequisite: RT 3010 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 3110 Clinical Aspects of Radiation Therapy Cr. 3
Basic concepts in oncology and radiation therapy technology. Topics include: cancer statistics, neoplasia, and principles of treatment and dosage. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $75

RT 3140 Topographic Anatomy and Medical Imaging Cr. 3
Procedures for imaging human structure and their relevance to radiation therapy; topographic and cross sectional anatomy, identification of anatomic structures as demonstrated through various imaging modalities and human anatomy lab sessions; fundamentals of radiographic exposure techniques and film processing. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $10

RT 3200 Therapeutic Interactions in Oncology Care Cr. 2
Issues related to professional interaction with oncology patients. Impact of cancer diagnosis on patient and family; subsequent role of radiation therapist. Approaches to effective communication. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $5

RT 3310 Clinical Practicum I Cr. 4
Introduction to clinical radiation therapy. Closely supervised patient-related activities. Emphasis on development of interpersonal communication skills in the clinical setting; medical terminology. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $79

RT 3320 Clinical Practicum II Cr. 4
Closely supervised practice in the delivery of prescribed doses of radiation utilizing common radiation equipment. Observation and performance of clinical care procedures; Development of communication skills in patient/therapist relationships. Correlation of medical imaging techniques to diagnostic workup and treatment planning. Completion of clinical competency requirements. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $79

RT 3330 Clinical Practicum III Cr. 4
Expanded supervised practice in the delivery of radiation therapy treatments. Submission of essay on radiation oncology topic. Completion of clinical competency requirements. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $132

RT 4110 Clinical Radiation Oncology Cr. 4
General presentation of malignant conditions, their etiology and methods of treatment; specific radiation treatment methodology including technical parameters of field size and direction, dosage, blocking, and patient positioning. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $15

RT 4120 Basic Clinical Dosimetry Cr. 4
Basic concepts of clinical dosimetry and treatment planning; various external beam techniques, depth dose data, and summation of isodose curves. Offered Winter.
Prerequisite: RT 4110
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $10

RT 4140 Oncologic Pathology Cr. 2
Basic principles of neoplasia, including types of growth, causative factors, biological behavior, and significance of staging procedures. Pathology of radiation injury. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $10

RT 4150 Radiobiology of Radiation Oncology Cr. 2
Biological effects of ionizing radiation on living tissue. Cell and tissue radiosensitivity; radiation syndromes and related effects. Basic radiobiological principles of radiation oncology and radiation protection. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 4220 Radionuclide Physics Cr. 3
Natural radioactivity; isotopes and nuclear structure; techniques of radiation measurement. The clinical use of radionuclides. Radiation safety. Offered Fall.
Prerequisite: RT 3020 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 4240 Radiation Therapy Technology Seminar Cr. 3
Issues relevant to the practice and profession of radiation therapy technology explored through group discussion and case studies. Topics include: psychosocial, cultural, economic, physical, and educational factors which affect the patient; professional, administrative, legal, and bioethical issues which influence professional practice. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $15

RT 4300 Quality Assurance Cr. 2
Principles and application of a comprehensive quality assurance program, addressing general clinical and physics factors. Contents include: tasks to be performed, with their frequency and acceptable limits; model implementation program; and legal implications. Lecture and laboratory settings. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $10

RT 4350 Clinical Practicum IV Cr. 4
Continued supervised practice in a wide spectrum of clinical activities. Submission of a critical bibliography from current literature of radiation therapy, cancer management and related areas. Completion of clinical competency requirements. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $126

RT 4360 Clinical Practicum V Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Continued clinical practice under limited supervision. Submission of essay on radiation oncology topic. Completion of clinical competency requirements. Satisfies the University General Education Writing Intensive Course in the Major requirement. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $67

RT 4370 Clinical Practicum VI Cr. 4
Continued clinical practice under minimal supervision. Practice of procedures related to the development of various treatment plans and methods of treatment planning. Submission of report on quality assurance activities. Completion of clinical competency requirements. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Fees: $69

RT 5650 Pathophysiology for Health Sciences Cr. 3
Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Equivalent: OT 5650, PT 5650

RT 5990 Directed Study in Radiation Therapy Technology Cr. 1-5
Production of a paper, written assignment, or presentation to develop critical thinking, research, writing and presentation skills. Focus on career options within the field. Offered Every Term.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Repeatable for 5 Credits

Radiologic Technology

RDT 3100 Introduction to Radiologic Technology Cr. 2
This course is designed to acquaint the new student with the goals, philosophies, and organization of the radiography program and the radiology department. An appreciation of radiologic technology will be established through an understanding of medical history, the evolution of radiologic technology and professional organizations. Elementary terminology and explanation of all imaging modalities will also be introduced. Offered Fall.
Corequisite: RDT 3400
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $50

RDT 3200 Radiation Biology and Advanced Protection Cr. 3
Radiation protection procedures; radiation interaction with matter and dosage problem solving. Offered Winter.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, and RDT 3400 with a minimum grade of C
Corequisite: RDT 3500
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3300 Radiographic Procedures I Cr. 3
Instruction and practical experience in procedures of positioning for the skeletal system with correlation to related anatomy in medical images. Offered Fall.
Corequisite: RDT 3305
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3305 Radiographic Procedures I Lab Cr. 1
This course is designed to provide the student in Radiologic Technology with the application of information necessary to appropriately position patients for optimal radiographic imaging. Offered Fall.
Corequisite: RDT 3300
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3400 Clinical Education I Cr. 4
Clinical course. Student participates in supervised practice of radiographic procedures, studied in conjunction with didactic coursework. Offered Fall.
Corequisite: RDT 3100
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $55

RDT 3500 Patient Care Cr. 3
Practical application of patient handling: patient assessment, implication of medications and contrast media. BLS certification. Offered Winter.
Prerequisite: RDT 3090 with a minimum grade of C and RDT 3100 with a minimum grade of C and RDT 6500 with a minimum grade of C
Corequisite: RDT 3600
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $35

RDT 3600 Clinical Education II Cr. 4
Application of didactic theory in practice on patients/clients under supervision of qualified technologists in a clinical setting. Offered Winter.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, and RDT 3400 with a minimum grade of C
Corequisite: RDT 3500
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $50

RDT 3700 Radiographic Procedures II Cr. 3
Continuation of RDT 3300. Additional advanced procedures, including skull, mammography, and gastrointestinal studies. Offered Spring/Summer.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, RDT 3400 with a minimum grade of C, RDT 3500 with a minimum grade of C, RDT 3200 with a minimum grade of C, RDT 4100 with a minimum grade of C, and RDT 3600
Corequisite: RDT 3705
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $35

RDT 3705 Radiographic Procedures II Lab Cr. 1
This course is designed to provide the student in Radiologic Technology with the application of information necessary to appropriately position patients for optimal radiographic imaging. Offered Spring/Summer.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, RDT 3400 with a minimum grade of C, RDT 3500 with a minimum grade of C, RDT 3200 with a minimum grade of C, RDT 4100 with a minimum grade of C, and RDT 3600
Corequisite: RDT 3700
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3800 Cross-Sectional Anatomy Cr. 3
Presentation of anatomical structures in sectional format, as encountered in computed tomography or magnetic resonance imaging. Offered Spring/Summer.
Prerequisite: RDT 3300 with a minimum grade of C and RDT 3700 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3900 Clinical Education III Cr. 6
Minimally supervised clinical experience. Skills practice to proficiency level; additional complex skills. Offered Spring/Summer.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, RDT 3400 with a minimum grade of C, RDT 3500 with a minimum grade of C, RDT 3200 with a minimum grade of C, RDT 4100 with a minimum grade of C, and RDT 3600
Corequisite: RDT 3700
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $50

RDT 4000 Radiographic Quality & Exposure I Cr. 2
This course is designed to provide the student in Radiologic Technology the introduction to practical and theoretical knowledge necessary to function in a radiographic room by setting technical factors, implementing accessory tools such as grids, filters, etc. This course will also provide knowledge of the relationship between radiographic exposure and image formation utilizing Computed Radiographic Imaging and Digital Radiography systems, as well as a historical summary of conventional methods. Upon successful completion of this course, the student will be introduced to various technical factors, variables, and radiographic equipment covered within, with the key aim of providing diagnostic radiographic image quality. Offered Fall.
Corequisite: RDT 3100
Restriction(s): Enrollment is limited to students with a major in Radiologic Technology.

RDT 4100 Radiographic Quality & Exposure II Cr. 2
Students will reference concepts from RDT 4000 Radiographic Quality/ Exposure I to critically evaluate image quality and production. This course is designed to provide the student in Radiologic Technology with the information necessary appropriately evaluate images for their respective diagnostic value. This course requires students to critically evaluate images for image deficiencies and variances in patient presentation. Offered Winter.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, and RDT 3400 with a minimum grade of C
Corequisite: RDT 3200
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $35

RDT 4200 Radiation Physics and Circuitry Cr. 3
Radiation physics; tubes and circuits of radiographic equipment. Offered Fall.
Prerequisite: RDT 3200 with a minimum grade of C and RDT 3500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4300 Clinical Education IV Cr. 6
Continuation of RDT 3900. Offered Fall.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, RDT 3400 with a minimum grade of C, RDT 3500 with a minimum grade of C, RDT 3200 with a minimum grade of C, RDT 4100 with a minimum grade of C, RDT 3600 with a minimum grade of C, RDT 3700 with a minimum grade of C, RDT 3705 with a minimum grade of C, RDT 6500 with a minimum grade of C, and RDT 3900 with a minimum grade of C
Corequisite: RDT 4200
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $50

RDT 4400 Radiographic Pathology Cr. 3
Disease process and how they manifest in imaging modalities. Clarification of modality preference. Offered Winter.
Prerequisite: RDT 3500 with a minimum grade of C and RDT 4500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4500 Clinical Education V Cr. 6
Supervised clinical experience in performing radiographic procedures on patients in clinical setting. Evaluation of outcomes; application of knowledge at a progressive level. Offered Winter.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, RDT 3400 with a minimum grade of C, RDT 3500 with a minimum grade of C, RDT 3200 with a minimum grade of C, RDT 4100 with a minimum grade of C, RDT 3600 with a minimum grade of C, RDT 3700 with a minimum grade of C, RDT 3705 with a minimum grade of C, RDT 6500 with a minimum grade of C, RDT 3900 with a minimum grade of C, RDT 4200 with a minimum grade of C, RDT 4900 with a minimum grade of C, RDT 4800 with a minimum grade of C, and RDT 4300 with a minimum grade of C
Corequisite: RDT 4600
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $75

RDT 4600 Radiology Seminar Cr. 1
Introduction to imaging modalities beyond the scope and practice of the general radiographer; emphasis on interventional procedures. Offered Winter.
Prerequisite: RDT 3500 with a minimum grade of C and RDT 3700 with a minimum grade of C and RDT 4100 with a minimum grade of C
Corequisite: RDT 4500
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $20

RDT 4700 Clinical Education VI Cr. 6
Continuation of RDT 4500. Offered Winter.
Prerequisite: RDT 4500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Fees: $50

RDT 4800 Independent Study Cr. 1
Satisfies General Education Requirement: Writing Intensive Competency
Independent research in radiology. Offered Fall.
Prerequisite: RDT 3090 with a minimum grade of C and RDT 3500 with a minimum grade of C and RDT 3700 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4900 Jurisprudence for Radiographers Cr. 3
Ethical and legal case studies; research and discussion correlated to philosophical theory and accepted best law practice for general situations in health care and those specific to radiography. Offered Winter.
Prerequisite: PHI 2320 with a minimum grade of C and RDT 3500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 6500 Pharmacology for Radiographers Cr. 2
This course is designed to teach Bachelor of Radiologic Technology (RDT) students the following a) the basic principles of Pharmacology, which includes Pharmacotherapeutics and Toxicology. Special emphasis will be given to Pharmacotherapeutics, which is comprised of Pharmacokinetics and Pharmacodynamics; b) the process of drug discovery and testing; and c) the chemical, generic and trade names of drugs that are commonly taken by patients, the mechanisms and duration of action of these drugs, the side effects of these drugs, and the interactions of these drugs. Offered Spring/Summer.
Prerequisites: RDT 4000 with a minimum grade of C, RDT 3300 with a minimum grade of C, RDT 3100 with a minimum grade of C, RDT 3305 with a minimum grade of C, RDT 3400 with a minimum grade of C, RDT 3500 with a minimum grade of C, RDT 3200 with a minimum grade of C, RDT 4100 with a minimum grade of C, and RDT 3600
Corequisite: RDT 3700
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.