

# School of Rehabilitation Sciences

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<http://www.odu.edu/rehabsci/dpt> (<http://www.odu.edu/rehabsci/dpt/>)

Patricia Laverdure, Chair

## Center for Brain Research and Rehabilitation

The School of Rehabilitation Sciences has opened a 3,800 square foot research facility (<http://www.odu.edu/ptat/resources/>) with a large gait/movement assessment area, a room for virtual reality and rehabilitation studies, a multipurpose room for neurologic testing, and office space for faculty and graduate students. A primary research focus relates to neuromechanical basis of human movement under healthy and pathological conditions, with more clinically oriented studies on methods to improve gait and function in people with neurologic impairments. This research laboratory is designed for multidisciplinary use by faculty and graduate students in Athletic Training, Occupational Therapy, Physical Therapy, Human Movement Sciences, and Electrical and Computer Engineering. Collaboration among disciplines and with the Virginia Modeling and Simulation Center (VMASC) allows us to participate in exciting research projects exploring new technology in rehabilitation.

## Faschini Wallach Center for Restorative Therapies

The School of Rehabilitation Sciences, in collaboration with the Ellmer College of Health Sciences and Old Dominion University, operates a multidisciplinary therapy clinic on the ODU campus. Located at 1019 W 41st Street, Norfolk, VA 23529, the clinic offers physical, occupational, and speech therapy services to ODU faculty, staff, students, and the surrounding community. In addition to providing high-quality care, the clinic serves as a hands-on learning environment where students develop skills in assessment, clinical decision-making, and treatment. It also supports clinical research initiatives in partnership with the Center for Brain Research and Rehabilitation, the Kinesiology and Rehabilitation PhD Program, and university and community research partners.

## Programs

### Doctor of Occupational Therapy Program

- Occupational Therapy (OTD) (<http://catalog.odu.edu/graduate/health-sciences/rehabilitation-sciences/occupational-therapy-otd/>)

### Doctor of Philosophy Program

- Kinesiology and Rehabilitation (PhD) (<http://catalog.odu.edu/graduate/health-sciences/rehabilitation-sciences/kinesiology-rehabilitation-phd/>)

### Doctor of Physical Therapy Program

- Physical Therapy (DPT) (<http://catalog.odu.edu/graduate/health-sciences/rehabilitation-sciences/physical-therapy-dpt/>)

### Master of Science in Athletic Training Program

- Athletic Training (MSAT) (<http://catalog.odu.edu/graduate/health-sciences/rehabilitation-sciences/athletic-training-msat/>)

## Courses

### Athletic Training (AT)

#### AT 602 Foundations of Sports Medicine for Health Care Providers (3 Credit Hours)

An overview of tissue response to injury and pain transmission provide the foundation from which students will learn about physical agents and specific conditions from a medical perspective. Pathology for specific injuries will be taught, and students will become familiar with the theoretical and practical application of physical agents as it relates to tissue response to injury and pain control. An introduction to the basic principles and underlying theories relating to examination and treatment techniques will also be presented.

**Prerequisites:** Students must be admitted into the Master of Science in Athletic Training degree program

#### AT 603 Clinical Examination and Patient Care-Spine & Head (4 Credit Hours)

This course is designed to provide information relative to the prevention, recognition, evaluation, treatment, rehabilitation, and return to function and/or activity of athletic injuries involving the spine or head.

**Prerequisites:** Students must be admitted into the Master of Science in Athletic Training program

#### AT 604 Clinical Examination and Patient Care-Lower Extremity (4 Credit Hours)

This course is designed to provide information relative to the prevention, recognition, evaluation, treatment, rehabilitation, and return to function and/or activity of athletic injuries involving the lower extremity.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

#### AT 605 Clinical Examination and Patient Care-Upper Extremity (4 Credit Hours)

This course is designed to provide information relative to the prevention, recognition, evaluation, treatment, rehabilitation, and return to function and/or activity of athletic injuries involving the upper extremity.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

#### AT 607 Management of Medical Conditions for Healthcare Providers I (3 Credit Hours)

Instruction and practice in advanced first aid, Emergency Cardiac Care techniques, and oxygen administration for the paramedical professional. A study of the knowledge and skills required to recognize, triage, refer, and treat, as appropriate, internal injuries, general medical conditions, and disabilities of patients involved in physical activity.

**Prerequisites:** Students must be admitted into the Master of Science in Athletic Training program

#### AT 612 Functional Movement for Healthcare Providers (3 Credit Hours)

This course is designed to cover the anatomical and mechanical analysis of human musculoskeletal function. Principles of biomechanics, connective tissue behavior, and muscle physiology are integrated with joint structure and function to form the basis of understanding normal and pathological movement.

**Prerequisites:** AT 691

#### AT 615 Research I (2 Credit Hours)

This course is designed to introduce the graduate student to research processes in the athletic training field. The focus is on understanding and recognizing principles of evidence-based practice in athletic training, understanding the elements of evidence, appraising the evidence, and considering the evidence for use in clinical practice.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

#### AT 617 Management of Medical Conditions for Healthcare Providers II (3 Credit Hours)

Advanced management of acute conditions including wound management, phlebotomy, medication administration, dislocation reduction, and appropriate referral strategies. Advanced therapeutic techniques will also be incorporated.

**Prerequisites:** AT 607

**AT 618 Current Research in Athletic Training (1 Credit Hour)**

Designed to provide an understanding of evidence-based practice to the sports medicine setting and the intricacies of performing evidence-based practice research projects.

**AT 623 Athletic Training Practicum I (1 Credit Hour)**

This course is designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in sports medicine.

**AT 625 Research II (1 Credit Hour)**

This course is designed to systematically guide professional athletic training students through the research process. Coursework will focus on development of an original research idea, building the theoretical background, and identifying the rationale for a research project. Based on the nature of this course, students will be required to meet with a research supervisor outside of the time permitted for class.

**Prerequisites:** AT 615

**AT 626 Advanced Orthopaedic Evaluation and Rehabilitation (4 Credit Hours)**

This course is designed for sports medicine clinicians and will focus on advanced topics in the study of orthopaedic evaluation, assessment, management, and rehabilitation of common athletic injuries. A combination of discussion, lecture, critical review of literature, laboratory activities, and student presentations will be employed throughout the course.

**AT 628 The Spine: Evaluation and Rehabilitation (3 Credit Hours)**

A course designed to provide information relative to the recognition, evaluation, and treatment of athletic injuries involving the spine.

**AT 630 Interprofessional Healthcare in Clinical Practice (3 Credit Hours)**

This clinical experience entails interaction with healthcare providers associated with sports medicine specialties and general medical concerns.

**AT 633 Athletic Training Practicum II (1 Credit Hour)**

This course is designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in sports medicine.

**AT 635 Research III (1 Credit Hour)**

This is a course designed to guide professional athletic training students through aspects of the research process. Coursework will focus on writing the Methods sections for a research manuscript, writing the results section for a research manuscript and proper data entry techniques for a research project. Based on the nature of this course, students will be required to meet with a research supervisor and collect data for their respective project outside of the time permitted for class.

**Prerequisites:** AT 615 and AT 625

**AT 638 Documentation & Quality Improvement for Healthcare Providers (3 Credit Hours)**

This course will provide an overview of medical terminology, and best practices in medical documentation will be emphasized. Use of documentation strategies to analyze practice trends to identify and implement quality improvement strategies will be stressed.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 640 Clinical Medicine for Healthcare Providers I (3 Credit Hours)**

This course introduces the healthcare student to the normal and abnormal physiology of different body systems as well as differential diagnoses in common medical conditions. Factors associated with those body systems that influence examination and intervention will be discussed. Also discussed is when referral to other practitioners is recommended and required. A case study approach is employed to enforce critical thinking and to mimic practical application.

**Prerequisites:** AT 691

**AT 641 Clinical Medicine for Healthcare Providers II (3 Credit Hours)**

This course will address health across the lifespan, as well as highlight strategies to mitigate the risk of long-term health complications. This course will additionally identify and describe various modes of imaging techniques and tests used in medical practice for the neurological, musculoskeletal, cardiovascular, and pulmonary systems.

**Prerequisites:** AT 691 and AT 640

**AT 643 Athletic Training Practicum III (1 Credit Hour)**

This course is designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in sports medicine.

**AT 645 Research IV (1 Credit Hour)**

This course is designed to guide professional athletic training students through aspects of the research process. Coursework will focus on writing the discussion section for a research manuscript, writing a research abstract for submission to a conference, developing an oral research presentation for a conference, and creating a poster presentation for a conference. Based on the nature of this course, students will be required to meet with a research supervisor outside of the time permitted for class.

**Prerequisites:** AT 615, AT 625 and AT 635

**AT 647 Interprofessional Clinical I (1 Credit Hour)**

This clinical experience entails interactions with healthcare providers associated with orthopedic specialties and general medical concerns.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 648 Interprofessional Clinical II (1 Credit Hour)**

This clinical experience entails interaction with healthcare providers associated with sports medicine specialties and general medical concerns.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 650 Integration of Evidence for Clinical Decision Making in Sports Medicine (3 Credit Hours)**

This course is designed to introduce the graduate student to research processes in the athletic training field. The focus is on understanding and recognizing principles of EBP in athletic training, understanding the elements of evidence, appraising the evidence, and considering the evidence for use in clinical practice.

**AT 651 Statistical Techniques for Clinical Decision Making in Sports Medicine (3 Credit Hours)**

This course includes conceptual and computational applications associated with the common statistical techniques relevant to sports medicine clinicians. The intent is to provide students with an introduction to frequently used descriptive and inferential statistical methods for clinical or research purposes in sports medicine. Lectures and laboratory exercises will be utilized to instruct students on using statistics to be intelligent consumers of the research literature. Emphasis will be placed on using statistics to make informed, evidence-based clinical decisions with the goal of enhancing patient care.

**Prerequisites:** AT 650

**AT 652 Pharmacology (3 Credit Hours)**

Introduces principles of drug therapy across the lifespan and their use pertaining to the healthcare of the physically active. An emphasis on the application of knowledge and skills required of the healthcare provider, including indications, contraindications, precautions, interactions, documentation, and governing regulations.

**Prerequisites:** AT 691 or other graduate-level human anatomy course as approved by the instructor

**AT 653 Athletic Training Practicum IV (1 Credit Hour)**

This course is designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in sports medicine.

**AT 655 Teaching Strategies and Assessment (3 Credit Hours)**

This course is designed to provide information related to teaching strategies and techniques along with supervised and mentored teaching experiences within fields applicable to athletic training.

**AT 657 Lower Extremity Injury Management Strategies (3 Credit Hours)**

Stresses clinical techniques used in the management and assessment of the lower extremity and spine through utilization of evidence-based practice.

**AT 661 Behavioral Health in Sports Medicine (3 Credit Hours)**

The focus of this course is on identification, referral, and coordinated treatment options for patients with mental and behavioral health conditions.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 664 Ethics in Healthcare (3 Credit Hours)**

This course will provide in-depth coverage of legal and ethical concerns for sports medicine healthcare providers. Identification and analysis of applicable local, state, and federal laws and regulations that are specific to the delivery of healthcare.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 666 Athletic Training Practicum I (1 Credit Hour)**

This course is designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in sports medicine.

**Prerequisites:** AT 603

**AT 667 Athletic Training Practicum II (1 Credit Hour)**

This course is designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in sports medicine.

**Prerequisites:** AT 604

**AT 668 Athletic Training Practicum III (2 Credit Hours)**

This course is designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in sports medicine.

**Prerequisites:** AT 605

**AT 669 Athletic Training Practicum IV (1 Credit Hour)**

This course is designed to provide practical experience in the athletic training setting and an understanding of evidence-based practice in sports medicine.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 670 Athletic Training Research I (1 Credit Hour)**

This course is designed to systematically guide post-professional athletic training students through the research process. Coursework will focus on development of an original research idea, building the theoretical background, and identifying the rationale for a research project. Based on the nature of this course, students will be required to meet with a research supervisor outside of the time permitted for class.

**Prerequisites:** AT 650

**AT 671 Athletic Training Research II (2 Credit Hours)**

This is a course designed to guide post-professional athletic training students through aspects of the research process. Coursework will focus on writing the Methods sections for a research manuscript, writing the results section for a research manuscript and proper data entry techniques for a research project. Based on the nature of this course, students will be required to meet with a research supervisor and collect data for their respective project outside of the time permitted for class.

**Prerequisites:** AT 670

**AT 672 Athletic Training Research III (3 Credit Hours)**

This course is designed to guide post-professional athletic training students through aspects of the research process. Coursework will focus on writing the discussion section for a research manuscript, writing a research abstract for submission to a conference, developing an oral research presentation for a conference, and creating a poster presentation for a conference. Based on the nature of this course, students will be required to meet with a research supervisor outside of the time permitted for class.

**Prerequisites:** AT 671

**AT 673 Healthcare Administration and Policy (3 Credit Hours)**

An overview of administrative and organizational concepts that relate to healthcare entities that provide athletic training services. Facility design, fiscal management, organizational management, and insurance issues will be emphasized. Students will learn about the development and implementation of policies and procedures that occur within an organization that delivers patient care that can impact delivery and quality of care.

**Pre- or corequisite:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 686 Performance Enhancement in Sports Medicine (3 Credit Hours)**

A study of the principles and techniques utilized in optimizing physical performance and reducing injury through proper and effective strength and conditioning programs. Special emphasis will be placed on current research findings, breakthrough and advanced weight training techniques, and popular conditioning practices. This course will also provide the student with skills in exercise leadership. The student will learn how to lead resistance training, flexibility training, cardiovascular training involving a variety of exercise modes, and group exercise.

**Prerequisites:** AT 612

**AT 687 Contemporary Issues in Athletic Training (2 Credit Hours)**

Seminar-based course that will involve discussion of critical questions and contemporary issues and problems in athletic training/sports medicine.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 689 Professional Competence Assessment in Athletic Training (3 Credit Hours)**

Knowledge and skills for successful pursuit of athletic training credentials, including Board Of Certification (BOC) examination preparation, employment, and continuing professional competence. Will include self-analysis of patient encounter portfolio and identification of clinical needs.

**Prerequisites:** Students must be admitted into the Master of Science of Athletic Training program to register for this course

**AT 691 Gross Anatomy for the Rehabilitation Sciences (6 Credit Hours)**

This course is designed to provide students in the School of Rehabilitation Sciences an interprofessional education experience that teaches the basic principles and concepts of human gross anatomy so they can apply it to their clinical practice. While multiple body systems will be covered, emphasis will be on the musculoskeletal, articular, nervous, and vascular systems.

**AT 697 Independent Study in Athletic Training (3 Credit Hours)**

An overview of clinical reasoning strategies and opportunities for clinical practice implementation will be provided. Students are provided a review of both human anatomy and evidence-based strategies for the delivery of care. Students will learn about the development and implementation of policies and procedures that can impact delivery and quality of care.

**AT 711 Analysis of Human Motion for Sports Medicine Clinicians (3 Credit Hours)**

This course includes theories and applications of techniques concerning the analysis of human motion for the sports medicine clinician. The intent of this course is to provide students with an introduction to quantitative analysis of human motion and the concepts and equipment to collect objective quantifiable data for clinical or research purposes.

**AT 756 Education in Athletic Training (4 Credit Hours)**

Designed to introduce current concepts of curriculum development, evaluation methods, course construction and testing as related to the athletic training clinical and didactic experience. Designed to introduce the graduate student to aspects of the management of learning and instruction; how learners learn and how teachers can facilitate their learning as related to the athletic training didactic and clinical experience.



**AT 811 Analysis of Human Motion for Sports Medicine Clinicians (3 Credit Hours)**

This course includes theories and applications of techniques concerning the analysis of human motion. It is designed to provide opportunities for the advanced study of motion analysis techniques for the study of human movement. The intent of this course is to provide students with an extensive knowledge concerning quantitative analysis of human motion and the concepts and equipment to collect objective quantifiable data to be used for clinical or research purposes.

**AT 998 Master's Graduate Credit (1 Credit Hour)**

This course is a pass/fail course for master's students in their final semester. It may be taken to fulfill the registration requirement necessary for graduation. All master's students are required to be registered for at least one graduate credit hour in the semester of their graduation.

**Kinesiology and Rehabilitation (KRS)****KRS 820 MATLAB Programming for Kinesiology and Rehabilitation (3 Credit Hours)**

Developments in technology provide researchers with the ability to measure different aspects of human movement many times a second. To make sense of these large and complex datasets researchers are increasingly using engineering software, e.g., MATLAB, to manipulate, process, and analyze data. In this course, students will gain experience importing, plotting, filtering, selecting critical points, and exporting data through the creation of custom functions and scripts within the MATLAB user interface.

**Prerequisites:** admission to the kinesiology and rehabilitation doctoral program or permission of the instructor

**KRS 825 Mixed and Multi Methods in Health Sciences Research (3 Credit Hours)**

This course will cover the writing and refining of research questions, collecting and analyzing qualitative and quantitative data, and choosing the appropriate mixed or multi-method design. The course will also review analyzing, interpreting, and presenting the results of a mixed or multi method design to address the research questions. Students will learn how qualitative and quantitative data can be combined to capture the perspectives of healthcare providers, patients, organizations, or other stakeholders to answer research questions.

**KRS 830 Theoretical Models in Kinesiology and Rehabilitation (3 Credit Hours)**

This course will explore some of the theories that are common to kinesiology and rehabilitation research. It will include theories associated with disablement, rehabilitation, patient-centered care, motor control, and models for clinical research. These theories will be applied to clinical and research applications relevant to kinesiology and rehabilitation.

**KRS 835 Critical Appraisal and Synthesis of Evidence in Kinesiology and Rehabilitation (3 Credit Hours)**

This course will introduce the student to critical appraisal of all forms of research in kinesiology and rehabilitation. The purpose of this course is to further develop the student's competence in conducting and evaluating research. The student will develop the skills necessary to find, critically evaluate, and synthesize the available research in order to answer individual research questions or cultivate a line of research inquiry.

**KRS 851 Motor Performance: Rhythmic/Cyclic Tasks (3 Credit Hours)**

This course examines the coordination of cardiorespiratory, musculoskeletal, and neurological systems in performing rhythmic movement tasks such as walking, running, swallowing, speaking, and feeding. Students will gain experience measuring and interpreting cardiorespiratory variables, kinematics, kinetics, and energetics of rhythmic movement tasks integrated with measures of activity, participation, and clinical standardized tests.

**KRS 852 Motor Performance: Discrete Tasks (3 Credit Hours)**

This course will examine the coordination of musculoskeletal and neurological systems in performing discrete movement tasks such as reaching, grasping, throwing and speaking. Students will gain experience measuring and interpreting kinematics and kinetics of discrete tasks integrated with measures of activity and participation and clinical standardized tests.

**KRS 855 Neurosciences of Motor Control (3 Credit Hours)**

This course covers neuroscience with specific regard to the fundamental design, organization and workings of the central nervous system (CNS) in the areas of motor control. The topics cover areas related to the typical development of motor function and changes in motor control throughout the lifespan. This course also assesses motor-control problems that occur as a result of congenital conditions, acquired damage, dysfunction or disease. Pathological conditions such as (but not limited to) stroke, Parkinson's disease, cerebellar disease, and muscle and joint pathologies are examined.

**KRS 856 Balance and Postural Control (3 Credit Hours)**

An optimal level of balance and postural control is essential for the performance of many everyday activities. This course is specifically focused on the neural, muscular and biomechanical mechanisms underlying postural control in healthy populations of different ages. In addition, changes that can be observed in postural control following damage, dysfunction and/or disease are also covered. The implications of changes in balance control for falls will be a particular focus. Students in this course learn how to collect and interpret kinematic, kinetic and electrophysiological data associated with the neuromuscular function during posture and balance tasks.

**KRS 857 Kinesiology in Rehabilitation (3 Credit Hours)**

Rehabilitation aims to enhance the functional ability of individuals with impairment or disease, while areas within the field of kinesiology seek to understand changes in tissues, physiological systems, movements, and behaviors that occur through training and practice. In this course, students will study these related processes of adaptation, learning, and rehabilitation.

**KRS 887 Structured Teaching Experience for Kinesiology and Rehabilitation Professions (1-3 Credit Hours)**

This course is designed to provide supervised and mentored teaching experience within fields applicable to kinesiology and rehabilitation.

**KRS 895 Special Topics in Kinesiology and Rehabilitation (3 Credit Hours)**

The advanced study of special topics in kinesiology and rehabilitation.

**KRS 898 Supervised Research (1-3 Credit Hours)**

This course is designed to provide supervised and mentored research experience within specialized topics applicable to kinesiology and rehabilitation.

**KRS 899 Dissertation (1-12 Credit Hours)**

An approved research project written under the supervision of a faculty advisor, in which the student demonstrates the capacity to design and complete independent applied research. The completed project must be approved by the dissertation committee.

**Occupational Therapy (OCCT)****OCCT 721 Foundations of Occupational Therapy Practice (2 Credit Hours)**

Students examine the historical and philosophical foundations that have shaped the profession of occupational therapy, its domain, values, and theories, and the foundations of practice with individuals, groups, and populations. Students explore the value of occupation and the role of occupational therapy in promoting health and wellness.

**OCCT 749 Occupations I (6 Credit Hours)**

Students analyze the domains and dimensions of occupations, occupational performance skills and patterns, and the structures, functions, and processes of the body and body systems. Students conduct biomechanical assessments and identify essential performance for health and function.

**Prerequisites:** Admission into the Doctor of Occupational Therapy Program

**OCCT 750 Occupations II (4 Credit Hours)**

Students analyze the domains and dimensions of occupations, occupational performance skills and patterns, and the structures, functions, and processes of the body and body systems. Students will examine the structures and function of the central, autonomic and peripheral nervous systems and apply neuroscience principles to clinical conditions that disrupt human engagement and performance.

**Prerequisites:** OCCT 749

**OCCT 751 Occupations III (3 Credit Hours)**

Students analyze the domains and dimensions of occupations, occupational performance skills and patterns, and the structures, functions, and processes of the body and body systems. Students examine human development and occupational patterns across the lifespan and the cultures that enable individuals, groups and populations to optimally participate in occupations that promote health.

**Prerequisites:** OCCT 750

**OCCT 752 Occupation, Health and Wellness Across the Lifespan (3 Credit Hours)**

Students examine human development, occupational patterns, and cultural influences across the lifespan that enable individuals, groups and populations to optimally participate in occupations that promote health. Students apply critical reasoning to consider the impact of disorders on participation and health.

**Prerequisites:** OCCT 721 and OCCT 749

**OCCT 753 Pediatric Habilitation and Rehabilitation: Theory and Practice (6 Credit Hours)**

Students examine occupations and the evaluation and treatment of physical, developmental, psychosocial, and mental health disorders of children and youth. Students design evaluation and intervention plans for clients receiving services in hospital, developmental, and school settings.

**Prerequisites:** OCCT 750, OCCT 752, OCCT 754, and OCCT 756

**OCCT 754 Professional Reasoning and the Occupational Therapy Process (3 Credit Hours)**

Students utilize professional and clinical reasoning to apply the occupational therapy process in client care. Students analyze information that supports team collaboration, clinical decision making, effective client care, and service reporting.

**Prerequisites:** OCCT 721 and OCCT 749

**OCCT 755 Evaluation of Occupational Performance (3 Credit Hours)**

Students explore the evaluation process in occupational therapy practice including observation, interviewing, assessment administration and interpretation, decision making, and reporting. Tests and measurement theory, psychometrics, methods, procedures, and test interpretation are examined.

**Prerequisites:** OCCT 750, OCCT 752, OCCT 754, and OCCT 756

**OCCT 756 Professional Identity and Ethical Formation (3 Credit Hours)**

Students integrate foundational concepts to promote professionalism, ethical reasoning, therapeutic use of self, and lifelong competent and interprofessional practice. Students examine professional identity and the role of professional relationships in occupational therapy practice.

**Prerequisites:** OCCT 721 and OCCT 749

**OCCT 768 Fieldwork I Pediatrics (1 Credit Hour)**

Immersed in a setting that serves the needs of children and youth, students develop a summary of a client's occupational history and experiences, patterns of daily living, interests, values, needs, and relevant environments and contexts, and examine client-centered outcomes.

**Prerequisites:** OCCT 750, OCCT 752, OCCT 754, and OCCT 756

**OCCT 821 Elements of Research I: Theories of Inquiry and Scholarly Literature (3 Credit Hours)**

Students develop knowledge of the application of statistics for the healthcare professional. Students utilize descriptive statistics, normality, parametric and non-parametric hypothesis testing and simple linear regression to evaluate research and form clinical decisions.

**Prerequisites:** OCCT 721 and OCCT 749

**OCCT 822 Elements of Research II: Using Evidence to Inform Practice (3 Credit Hours)**

Students apply knowledge of practice and research to design effective intervention to meet clients' needs. Students design clinical questions related to diagnosis, prognosis, and intervention, and critically appraise the research literature on a topic of interest to the practice community.

**Prerequisites:** OCCT 821

**OCCT 841 Education and Learning in Healthcare and Academic Settings (2 Credit Hours)**

Students explore teaching and learning theory, threshold concepts, and signature pedagogy in occupational therapy academic and fieldwork education. Activity analysis and learning strategies to promote health literacy, performance, engagement, and behavioral change are examined.

**Prerequisites:** OCCT 751, OCCT 752, OCCT 754, and OCCT 756

**OCCT 843 Leadership and Advocacy (2 Credit Hours)**

Students will examine approaches to professional development and strategic planning and examine their leadership competencies. They will discuss roles and responsibilities and develop a professional leadership and business plan.

**Prerequisites:** OCCT 751, OCCT 752, OCCT 754, and OCCT 756

**OCCT 845 Health Care Policy and Program Management (2 Credit Hours)**

Factors, forces, and dynamics of the healthcare system and service delivery environment are examined, and students compare the interrelationships of health policy, healthcare, and practice. Students conduct an epidemiological analysis of a challenging healthcare issue.

**Prerequisites:** OCCT 751, OCCT 752, OCCT 754, and OCCT 756

**OCCT 847 Therapeutic Relationships and Client Communication (2 Credit Hours)**

Students examine the elements of developing and maintaining relationships, communicating with clients and members of the team, and resolving interpersonal challenges in the roles of practitioner, practice scholar, and leader/advocate.

**Prerequisites:** OCCT 751, OCCT 752, OCCT 754, and OCCT 756

**OCCT 848 Fieldwork I Adults (1 Credit Hour)**

Students conduct an occupation-based assessment of a client in a clinical or community-based setting that serves the needs of adults with disabilities. Students examine occupational performance and its impact on participation and health and wellness in individuals and groups.

**Prerequisites:** OCCT 751, OCCT 754, and OCCT 755

**OCCT 850 Adult Rehabilitation: Theory and Practice (6 Credit Hours)**

Students examine occupations and the evaluation and treatment of physical, psychosocial, and mental health disorders of adults. Students design evaluation and intervention plans for clients receiving services in acute and sub-acute care, inpatient and outpatient rehabilitation, and community-based settings.

**Prerequisites:** OCCT 751, OCCT 753, and OCCT 755

**OCCT 851 Productive Aging and Rehabilitation: Theory and Practice (3 Credit Hours)**

Students examine the aging process and the evaluation and treatment of physical, developmental, psychosocial, and mental health disorders of older adults. Students design evaluation and intervention plans for clients receiving services in home, community, and skilled nursing settings.

**Prerequisites:** OCCT 751 and OCCT 850

**OCCT 852 Evaluation and Intervention of the Upper Extremity (3 Credit Hours)**

Interventions to optimize functional use of the hand and arm are analyzed. Emphasis on physical agent modalities, orthotics fabrication and application, shoulder, arm, and hand rehabilitation methods, and prosthetics and robotics is explored.

**Prerequisites:** OCCT 751, OCCT 754, and OCCT 755

**OCCT 853 Mental Health Promotion and Recovery: Theory and Practice (6 Credit Hours)**

Students examine the influence of psychosocial factors on occupational performance and participation in individuals, groups, and populations. Use of self as a therapeutic agent and group process skills are emphasized.

**Prerequisites:** OCCT 747 and OCCT 755

**OCCT 854 Technology and Environment Adaptation (3 Credit Hours)**

Students examine the role of technology in the occupational therapy process from evaluation to intervention planning and implementation. The regulation and ethics of technology use in therapy are considered and students explore the array of technological resources available for patient care.

**Pre- or corequisite:** OCCT 751 and OCCT 755

**OCCT 855 Occupational Adaptation in the Community (2 Credit Hours)**

Students apply professional reasoning and activity analysis to meet clients' occupational needs. Students analyze, grade, modify, and adapt occupations and activities to support occupational performance and participation.

**Pre- or corequisite:** OCCT 751, OCCT 850, OCCT 852, and OCCT 854

**OCCT 856 Interprofessional Telehealth (1 Credit Hour)****OCCT 857 Fieldwork I Psychosocial (1 Credit Hour)**

Students conduct evaluations and design a group-based intervention in a clinical or community-based setting that serves the needs of adults with disabilities. Students examine occupational performance and its impact on participation and health and wellness in individuals and groups.

**Prerequisites:** OCCT 751, OCCT 754, and OCCT 755

**OCCT 858 Elements of Research III: Critical Analysis of Occupational Therapy Practice (3 Credit Hours)**

Students analyze the external and internal criticisms of the profession and examine the evidence addressing practice. Students examine the body of evidence addressing an intervention of interest and complete a systematic review of the evidence.

**Prerequisites:** OCCT 822

**OCCT 859 Elements of Research IV: Scholarship of Practice Approaches and Design (2 Credit Hours)**

Students explore research approaches and design and participate in grant writing and a mentored research project with a faculty member that links theory and practice, facilitates understanding of complex real-world issues, and facilitates knowledge translation.

**Prerequisites:** OCCT 858

**OCCT 868 Fieldwork II A (6 Credit Hours)**

In this twelve-week full-time course, students are provided supervised field experiences applying the occupational therapy process with individuals, groups and/or populations with occupational performance and participation needs.

**Prerequisites:** OCCT 721, OCCT 749, OCCT 750, OCCT 751, OCCT 752, OCCT 753, OCCT 754, OCCT 755, OCCT 756, OCCT 768, OCCT 821, OCCT 822, OCCT 841, OCCT 843, OCCT 845, OCCT 847, OCCT 848, OCCT 850, OCCT 851, OCCT 852, OCCT 853, OCCT 854, OCCT 855, OCCT 856, OCCT 857, OCCT 858, OCCT 859, and OCCT 890

**OCCT 869 Fieldwork II B (6 Credit Hours)**

In this twelve-week full-time course, students are provided supervised field experiences applying the occupational therapy process with individuals, groups and/or populations with occupational performance and participation needs.

**Prerequisites:** OCCT 868

**OCCT 870 Community and Population Health (1 Credit Hour)**

Students examine the role of occupation in health promotion, health education, and prevention of illness. Key concepts of population health, social determinates of health, health promotion, and health behavior will be applied to develop community and population-based approaches.

**Pre- or corequisite:** OCCT 868

**OCCT 871 Professional Development Planning (2 Credit Hours)**

Students examine their knowledge, skills and professional competencies and establish a resume and professional development plan. Students examine the value of supervision and mentorship relationships.

**Pre- or corequisite:** OCCT 869

**OCCT 890 Practice-Scholar Seminar I (1 Credit Hour)**

Students examine the formation of their identity as an occupation-based practice scholar and ethical leader and explore challenges in service delivery systems of significance to occupational therapy's value and role in health and wellness promotion.

**Prerequisites:** OCCT 756, OCCT 843, and OCCT 847

**OCCT 891 Practice-Scholar Seminar II (1 Credit Hour)**

Students examine innovative approaches to service delivery and discuss their formative capstone experience and their potential role as a practitioner, practice scholar, and leader/advocate in health management and promotion.

**Prerequisites:** OCCT 890

**OCCT 892 Practice-Scholar Seminar III (1 Credit Hour)**

Students examine their capacity for leadership and advocacy for the role of occupation in achieving health and wellbeing of individuals, groups, and populations. Students reflect on their own plans for leadership and advocacy in their upcoming capstone project.

**Pre- or corequisite:** OCCT 751 and OCCT 755

**OCCT 893 Doctoral Capstone (7 Credit Hours)**

The doctoral capstone project is a 14-week full-time experiential course designed to develop students' skills role related focus areas. Students implement an individually mentored, increasingly self-directed capstone project as the culminating learning activity of the doctoral program.

**Prerequisites:** OCCT 869 and OCCT 892

**OCCT 894 Practice Scholar Symposium (2 Credit Hours)**

The synthesis of knowledge gained throughout the didactic curriculum, service-learning and field experiences, and in-depth scholarly capstone experience and project is demonstrated through the completion and presentation of a scholarly product.

**Prerequisites:** OCCT 869 and OCCT 892

**Physical Therapy (PT)****PT 621 Introduction to Physical Therapy (2 Credit Hours)**

An introductory course where students will develop physical therapy clinical skills. Content focuses on patient handling techniques including positioning and draping, bed mobility and transfer training, wheelchair management and gait training with the use of assistive devices. Basic medical terminology, communication, proper body mechanics and safety are also introduced.

**PT 627 Theory and Practice I (4 Credit Hours)**

This is the first course in a series that covers physical therapy interventions. The focus is on therapeutic exercise to address an individual's impairments, functional deficits, and well-being. Students will learn where different types of exercises fit into the healing and recovery timeline.

**PT 628 Theory and Practice II (4 Credit Hours)**

This course covers the theory, clinical techniques, and the evidence behind using common physical agents in physical therapy, including massage, electrotherapy, thermal and non-thermal modalities. The course also addresses theories of pain management and management of wounds and burns. The format of the class will combine lecture with an extensive laboratory component.

**PT 630 Mechanical Properties of Human Tissues in Rehabilitation (1 Credit Hour)**

This one-credit course surrounds the basic structure and function of loose and dense connective tissues, bone, articular cartilage, muscle and nerve. It will address how these tissues function under normal and pathological conditions and the implications for physical therapy. The course will also prepare the student to read and interpret the medical and scientific literature relative to histology and clinical practice.

**PT 634 Clinical Sciences I (3 Credit Hours)**

The first class in a series of lectures designed to acquaint the student with the clinical areas related to pathological conditions frequently encountered in physical therapy practice. The course develops an understanding of health models, disease processes and highlights common pathologies by body system central to the care of the patient.



**PT 635 Clinical Sciences II (3 Credit Hours)**

This course is designed to acquaint the student with medical aspects and pathological conditions associated with musculoskeletal disorders and surgical procedures involving the musculoskeletal system with a subunit related to cancer.

**PT 638 Exercise Physiology (2 Credit Hours)**

This course provides an overview of human physiology as it relates to exercise and the clinical practice of physical therapy. Energy systems and cardiopulmonary physiology will be covered, including electrocardiogram interpretation, as well as resistance training and weight loss.

**PT 640 Patient Evaluation I (3 Credit Hours)**

A beginning course in patient examination skills which focuses on history/interviewing skills, vital signs, range of motion, surface anatomy palpation, reflex testing, sensation testing, edema testing, and manual muscle testing.

**PT 641 Patient Evaluation II (3 Credit Hours)**

This course builds upon PT 640 with the focus on gait, posture, and musculoskeletal examination/evaluation. Emphasis will be on examination tests and measures, orthopedic special tests, beginning differential diagnosis, and linking evaluation to intervention choices.

**PT 655 Clinical Problem Solving I (3 Credit Hours)**

This course integrates material from first-year courses using case scenario role playing, short case vignettes, and standardized patients to facilitate clinical skill competencies and clinical decision making. Also covered are professional topics such as interprofessional collaboration competencies (IPEC), direct access, the ICF model, documentation, and emergency procedures.

**Prerequisites:** PT 621; must be enrolled in the DPT Program

**PT 656 Clinical Problem Solving II (3 Credit Hours)**

This course is one in the series of clinical problem-solving courses. It focuses on simulated patient experiences and discussion in orthopedic physical therapy. The course will emphasize critical thinking, problem solving and differential diagnosis as well as development and progression of plans of care for orthopedic patients.

**PT 665 Biomechanics/Kinesiology I (3 Credit Hours)**

This course will review the musculoskeletal system with emphasis on normal movement of the spine and extremities and the coordinated muscle activity necessary to produce that movement. Students will learn manual muscle testing techniques. The course will also introduce basic concepts such as types of muscle contractions, torque production, and joint reaction forces.

**PT 666 Biomechanics/Kinesiology II (2 Credit Hours)**

Students will learn to assess the measurement of motion and forces in normal human movement. Trigonometry will be employed in the problem-solving section of the course as the student assesses forces, vectors and loads.

**PT 669 Clinical Experience I (4 Credit Hours)**

This first full-time clinical education experience begins at the end of the first academic year of the program and is designed to permit progressive responsibility in patient evaluation and treatment based upon material learned in classes during the first year. Each student is required to provide one in-service presentation during the clinical learning experience.

**PT 695 Topics in Physical Therapy (1-3 Credit Hours)**

Advanced study of selected topics.

**PT 792 Neuroscience I (3 Credit Hours)**

Neuroscience I is the first in a series of courses that provide the student with an understanding of integrated neuroanatomy and neurophysiology. Emphasis will be placed upon basic neurophysiologic principles at the cellular level.

**Prerequisites:** BIOL 889

**PT 793 Neuroscience II (3 Credit Hours)**

Neuroscience II is the second course in the sequence. From the foundation of Neuroscience I, the course will build to the progressively higher order of structural functional relationships that control behavior.

**Prerequisites:** PT 792 and BIOL 889

**PT 810 Scientific Inquiry I (3 Credit Hours)**

This is the first in a series of courses that prepare the graduate to critically analyze and use scientific literature to improve clinical decision-making and practice. This course introduces the terminology and strategies of evidence-based practice applied to physical therapy. It emphasizes the basic concepts such as research design, measurement principles and basic statistics.

**PT 822 Scientific Inquiry II (2 Credit Hours)**

This course is a continuation of the graduate's preparation to practice critical analysis skills related to scientific literature. Its emphasis is placed on creating the components of research reports and concepts associated with judging the quality and value of research. Students will complete a systematic review of the literature.

**PT 826 Theory and Practice III (4 Credit Hours)**

This is third in a series of four courses in which the student will develop entry-level professional analytical skills in the area of evaluation and treatment with emphasis in the area of orthopedics. This course will expand on the knowledge from spring semester and summer clinical experiences. Teaching methods will include lecture, lab experiences, patient case studies, and demonstrations.

**PT 827 Theory and Practice IV (4 Credit Hours)**

This is the fourth in a series of Theory and Practice courses designed to prepare the student to achieve entry-level skills in analysis and management in acute care, the adult client with neurologic dysfunction, and rehabilitation following limb amputation. The course integrates the theoretical aspects of neurologic physical therapy with the development of cognitive and psychomotor clinical skills. Practice laboratories, demonstrations, use of audiovisual aids, lectures, laboratory assignments and projects are used to facilitate learning.

**PT 836 Clinical Sciences III (3 Credit Hours)**

This course is designed to emphasize modules in pharmacology, management of chronic pain, functional capacity evaluations, work conditioning, clinical electrophysiology and imaging.

**PT 837 Clinical Sciences IV (3 Credit Hours)**

The fourth clinical science course is designed to provide the learner with the foundation to apply clinical science knowledge about an underlying injury or disease to design and implement the appropriate physical therapy care plan for pathologies seen in physical therapy practice. This course focuses on pathologies seen in the acute care environment, pathologies of the nervous system and limb amputations.

**PT 842 Patient Evaluation III (3 Credit Hours)**

This course allows students to learn and develop the clinical tools and decision-making skills necessary in the evaluation of patients across the continuum of care with special attention paid to patients with various neurological dysfunctions, medically complex patients in the acute care setting and patients with amputations.

**PT 857 Clinical Problem Solving III (3 Credit Hours)**

The course uses simulated patient experiences, case studies and discussion around topics in orthopedic physical therapy. The course will emphasize critical thinking, problem solving and differential diagnosis, as well as the development and progression of plans of care for the orthopedic patient.

**PT 858 Clinical Problem Solving IV (3 Credit Hours)**

This is the fourth clinical problem-solving course. It focuses on simulated patient experiences, case studies and discussion of interventions for people with neurologic dysfunction (pediatric and adult), spinal cord injury, and care of patients with medically complex conditions in acute care and intensive care units (ICU).

**PT 870 Pediatric Rehabilitation (3 Credit Hours)**

This course is designed to prepare the student to achieve entry-level skills in pathology, analysis and management of the pediatric client with neurologic dysfunction. The course integrates the theoretical aspects of neurologic physical therapy with the development of cognitive and psychomotor clinical skills. Practice laboratories, demonstrations, use of audiovisual aids, lectures, laboratory assignments and projects are used to facilitate learning.

**PT 875 Clinical Experience II (6 Credit Hours)**

This second full-time clinical education experience occurs between the second and third academic years of the program and is designed to permit progressive responsibility in patient evaluation and treatment based upon material learned in classes during the first and second years.

**PT 876 Clinical Experience III (7 Credit Hours)**

This third full-time clinical education experience occurs following the final academic semester of the program and is designed to promote the development of an autonomous professional through the synthesis and application of clinical problem solving and clinical reasoning skills. Students will achieve entry-level clinical and administrative practice skills.

**PT 880 Psychosocial Aspects of Patient Care (2 Credit Hours)**

This course focuses upon the emotional and psychological elements associated with illness and disease. Students will learn the various societal and personal views of sickness and chronic illness as well as the coping mechanism employed by individuals and families when facing disease and terminal illness.

**PT 881 Inter-Professional Case Management for Special Populations (3 Credit Hours)**

This hybrid course facilitates interprofessional health promotion development between graduate-level health professions students in addition to PT management of special populations. Health promotion topics include abuse/mandated reporting, adolescent and LGBTQ health promotion, social and environmental issues, spirituality, death and dying, and supportive environments.

**PT 882 Practice Management (3 Credit Hours)**

This course is designed to provide the physical therapy student with a review of the principles and practices of managing and administering physical therapy in various clinical settings. The course stresses the principles of management administration in patient care in clinical environments.

**PT 883 Professional Issues in Physical Therapy (2 Credit Hours)**

This course is for the identification, analysis, and discussion of issues currently facing the physical therapy profession. The issues focus on the ethical questions as well as the role relationships of physical therapists in the greater health care delivery system of the United States.

**PT 884 Clinical Teaching and Professional Communication (3 Credit Hours)**

This course is designed to meet the needs for patient instruction, education within the classroom and clinic, and peer continuing education. The focus of the course is on clear communication in the teaching/learning process.

**PT 890 Differential Diagnosis Seminar (3 Credit Hours)**

The focus of this seminar will be on the integration of the foundational and clinical sciences to analyze and solve patient-based clinical problems to arrive at a diagnosis. Students will be expected to explain their reasoning and defend their decisions.

**PT 891 Seminar in Scientific Inquiry (3 Credit Hours)**

This course is designed to facilitate critical inquiry, clinical reasoning, cultural respect, and reflective thinking through formulation of a systematic review or case report on a patient from one of the student's full-time clinical experiences. Emphasis in this course is placed upon integrating the best research evidence with clinical experience and patient values to support decisions that affect patient outcomes and quality of life with application to management, education, and clinical practice.

**PT 892 Seminar in Inter-Professional Practice (1 Credit Hour)**

The purpose of this course is to challenge the student to interact with other health professionals in making patient care decisions.

**PT 893 Research Topics (2 Credit Hours)**

Research topics.

**PT 895 Topics in Physical Therapy I (1 Credit Hour)**

This course will expose interprofessional students to current trends in health promotion and illness prevention. Topics will include: Healthy People 2020 objectives, age specific clinical guidelines for health promotion and illness prevention, theories on behavior and motivation, sociocultural issues, and screening for a variety of health problems. Measures for promoting and maintaining health throughout the lifespan will be explored with attention to current research from the literature.

**PT 896 Topics in Physical Therapy II (1 Credit Hour)**

Students will pick from a variety of clinical specialty practice, service learning or research topics to explore in a small group setting.