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DSc/PhD Programs

Core Courses

CC 610  Biostatistics 1  (1 credit)
The purpose of this course is to introduce the student to biostatistics, the science of evaluating information in a biological setting. This course will cover such topics as simple descriptive statistics, basic probability concepts, probability distributions (normal & binomial), sampling distributions, and an introduction to t-distributions.

CC 611  Biostatistics 2  (1 credit)
The purpose of this course is to build upon the topics introduced in Biostatistics 1. This course will cover such topics as interval estimation, confidence intervals, hypothesis tests, and one and two-sample t-tests.

CC 612  Biostatistics 3  (1 credit)
The purpose of this course is to build upon the topics introduced in Biostatistics 2. This course will cover such topics as correlation, simple linear regression, one-way analysis of variance, factorial designs, post-hoc tests of means and other non-parametric methods.

CC 620  Biostatistics 1  (2 credits)
The purpose of this course is to introduce the student to biostatistics, the science of evaluating information in a biological setting. We will cover such topics as simple descriptive statistics, basic probability concepts, probability distributions (normal & binomial), sampling distributions, and an introduction to t-distributions.

CC 626.2  Case Report: Directed Independent Study  (3 credits – WebStudy)
Students will build on concepts from CC 635 Case Report Methodology course to design a case report and submit the case in a publishable format. When possible, it is preferred for the case to include methods anticipated for the dissertation research i.e. a pilot of dissertation methods with one subject. An application for expedited IRB review may be needed if the methods do not represent the standard of care. Pre- or co-requisite: CC 635.

CC 634  Survey of Qualitative Research  (2 credits; variable days on-site)
This course introduces the student to qualitative research methods and their applications to problems and phenomena in athletic training. Emphasis is placed on the appropriate use and differences of qualitative methods, their philosophical underpinnings, and application to clinical issues.

CC 635  Case Report Methodology  (1 credit)
This course involves an introduction to case report methodology. Case report methods in current literature are critiqued, and mechanics of writing a case report are emphasized with the goal of publication.

CC 640  Introduction to Research Methods: A Quantitative Approach  (2 credits)
This course provides an introduction to general research principles and research ethics. The student will be introduced to the following topics in the research process: question formulation, principles of measurement, basic design and methodological features, issues of reliability and validity, and fundamentals of conducting a literature
review. A quantitative article critique will be conducted in class and outside of class. The class format will include lecture, small group discussion, and practice.

CC 644 Evidence-based Practice (2 credits)
This course is designed to prepare healthcare professionals with the knowledge, skills and abilities necessary to make independent judgments about the validity of clinical research and to implement evidence-based clinical practice in their careers. This course will focus on the concepts of evidence-based practice with emphasis on forming answerable clinical questions and effective literature search strategies. The evaluative approach to appraising the research literature will prepare the students to judge the evidence on: 1) the accuracy and validity of diagnostic tests and the application of important diagnostic tests in the care of a specific patient; 2) the effectiveness of clinical interventions; 3) the natural history of health-related conditions; 4) risk of harm from select preventative and therapeutic interventions. Based on presentation of case scenarios, students will be required to formulate the key question(s), rapidly search medical and health-related databases, appraise the evidence with a critical analysis and describe application of the evidence in a clinical context.

CC 707 Instructional Design (2 credits – WebStudy)
This course is designed to facilitate the student’s development in the areas of teaching and learning (education). Two tracks are available: patient education and higher education. Students may also choose a hybrid of the two if approved by the instructor. Students will have approximately 3 months to complete the requirements for this course. Students may purchase a course packet from the University.

CC 710 Research Methods 2 (1 credit)
The conduct of scientific inquiry requires careful planning and forethought to assure that the eventual implementation of a study will successfully result in interpretable and meaningful measurements and that valid conclusions may be drawn. This course will provide students with the necessary background and experience to formulate a clearly delineated, hypothesis-driven research proposal that can be used to convince funding agencies and/or doctoral committees to support the study. In addition, this course will provide key information about the Institutional Review Board process so that the student will be able to assure a safe and ethical environment for their volunteer subjects.

CC 711 Research Methods 3 (1 credit)
This course will introduce the student to important epidemiological methodology/concepts commonly used in evidence-based medicine, chi-square distribution and related analyses of frequencies, introduction to data collection & management methods, introduction to the formulation of designing tables and figures for manuscripts, and cover important manuscript writing issues for peer-reviewed journals. The course will also include a brief interview of basic biostatistical tests in their relationship to designing tables/figures and critiquing peer-reviewed papers.

CC 820 Practicum (Variable credits)
The practicum experience is a unique and individual experience to supplement the student’s knowledge and experience from the student’s self-assessment negotiated with the Graduate Program Director. The practicum experience can be achieved in a variety of settings (research, education, clinical).
CC 844  Dissertation Residency  (4 credits)
Course required to maintain continuous enrollment in the University after completion of CC 899A and CC 899B until completion of the student dissertation. Each doctoral student will be required to complete a dissertation that is evidence-based and involves applied research of experimental, non-experimental, or descriptive designs. Examples of dissertations include: randomized control trials; quasi-experimental designs, survey research, single-case/subject designs, normative research, and correlational designs. Course may be taken multiple times for credit (as CC 844A, CC 844B, etc.).

CC 899  Doctoral Dissertation  (9 credits)
Each doctoral student will be required to complete a dissertation that is evidence-based and involves applied research of experimental, non-experimental, or descriptive designs. Examples of dissertations include: randomized control trials; quasi-experimental designs, survey research, single-case/subject designs, normative research, and correlational designs. Course is repeated once for credit (as CC 899A and CC 899B).

Specialty Courses by Program

Athletic Training

AT 600  Tissue Biomechanics  (2 credits)
This course will deal with the results of trauma to connective tissue from athletic injuries. It will cover the mechanics of injury, rates of healing, the inflammatory process and potential for rehabilitation post healing of sports injuries.

AT 601.2  Functional Orthopaedics  (2 credits)
This course covers the relationship between athletic injuries, the biomechanics of the injury as they relate to causes and their influence on treatment strategies. The relationship between weakness in musculoskeletal systems and their effect on recovery patterns will be discussed. Patterns of dysfunction that impede the recovery process will also be covered.

AT 604.2  Advanced Sports Nutrition  (2 credits – WebStudy)
This course is designed to extend beyond the basics of the science of nutrition and will focus on how nutritional variables affect physical exercise and competitive individuals in a variety of sport activities. The efficacy of nutritional supplements and various diet plans will be analyzed based upon evidence-based research. Methods of communication between athletes, parents, coaches, and medical staff to effectively transfer appropriate accurate information will be provided.

AT 606.2  Directed Independent Study: Literature Review, Critique, Analysis and Synthesis  (3 credits – WebStudy)
The student will conduct a literature search on a selected research topic (approved by the Instructor) and identify 25 pertinent research based articles. The student will review, critique and complete a one to two-page summary of each article. Findings are to be synthesized into a 10-15 page paper. In addition, the student will generate a list of statistical tools used in the data analysis of the articles.
AT 608 Scientific/Professional Writing (1 credit)
This pass/fail course reviews PubMed, Index Medicus, other search methodologies, American Medical Association Manual of Style editorial format, the composition of a scientific/professional manuscript, and the style of Scientific/professional writing, its construction and formats.

AT 612.3 Environmental Physiology (2 credits; 1 day on-site)
This course deals with the effects of environmental changes in weather, altitude, and pressure gradients as they relate to human performance. The symptoms and signs of heat stress and methods of evidence-based treatment and resolution of the problem will be discussed. Research related to the effect of hyperbaric chambers on healing rates and other physiological parameters will also be discussed.

AT 613 Pathopharmacology (2 credits – WebStudy Only)
This course is designed to enhance the student’s knowledge on the theoretical and clinical principles of pharmacology. Selected pathological conditions common to physically active individuals will be addressed in relationship to pharmacological intervention methods. The effects of drug therapy on exercise that can impact the delivery of effective and safe treatment programs will be emphasized.

AT 614 Evidence-based Medicine in Advanced Orthopaedic Assessment (1 credit)
An integral part of contemporary clinical practice is understanding the key elements of diagnostic tests as they relate to the differential diagnostic process. This course provides an advanced analysis of how to search for and appraise published reports on special tests and other aspects of the orthopaedic assessment process. Students will acquire advanced knowledge and skill in interpreting the medical literature to make informed decisions regarding the best examination procedures to use for individual patients.

AT 614.2 Evidence-based Advanced Orthopaedic Assessment (2 credits; 1 day on-site)
An integral part of contemporary clinical practice is understanding the key elements of diagnostic tests as they relate to the differential diagnostic process. This course provides an advanced analysis of how to search for and appraise published reports on special tests and other aspects of the orthopaedic assessment process. Students will acquire advanced knowledge and skill in interpreting the medical literature to make informed decisions regarding the best examination procedures to use for individual patients. Instructor: Lori Thein-Brody, PhD, PT, ATC. Pre- or co-requisite: CC 644.

AT 615 Evidence-based Medicine in Advanced Therapeutic Modalities (1 credit)
An integral part of contemporary clinical practice is understanding the key elements of therapeutic modality applications as they relate to the healing process. This course provides an advanced analysis of how to search for and appraise published reports on therapeutic modalities and tissue healing. Students will acquire advanced knowledge and skill in interpreting the medical literature to make informed decisions regarding the best therapeutic modality applications, procedures, and protocols to use for individual patients.
AT 616 Directed Independent Study* (3 credits – WebStudy)
This course will serve as a means to help the student understand the process of developing a research project. It will serve to expose the student to the broad spectrum of research that is both needed and available within the profession. Upon successful completion of this course, the student will be able to:
1. Identify needed areas of research in the area of Athletic Training.
2. Describe techniques for the development of research protocols.
3. Describe methods and procedures utilized in the conduct of research.
4. Discuss data collection procedures, management of data and data presentation of research.
5. Describe data interpretation leading the results and conclusions of research.
6. Develop a potential research project proposal at the completion of this course.

AT 619 Qualitative Research 2 (1 credit)
This course is the second in a two-course sequence on qualitative research methods that extends and elaborates on the topics covered in AT. Major approaches used in conducting qualitative research and the application of these methods to problems and phenomena in athletic training will be examined. The emphasis of the course is on the collection, management, analysis, and interpretation of qualitative data. Exploration and application of topics such as sampling, interviewing and observation techniques, data analysis methods, and reporting of qualitative research will be addressed. Evaluation and critique of research studies utilizing qualitative methods will also be examined.

AT 620 Foundations of Pedagogy (3 credits)
This course will incorporate a learner-centered approach to course development and instructional delivery. Assessment tools and strategies used to evaluate student learning will be emphasized. Students will demonstrate instructional techniques and strategies in the teaching of didactic competencies and clinical proficiencies based upon evidence-based teaching practices.

AT 651 Evidence-based Musculoskeletal Rehabilitation 2 (1 credit)
This course will be taught from an evidence-based perspective and serve to advance students’ clinical skills related to the musculoskeletal rehabilitation process of spinal dysfunction commonly seen in athletes. Students will be exposed to the current best evidence supporting commonly used interventions including therapeutic exercise and manual therapy. Critical thinking will be emphasized, allowing students to compare and contrast core training program with an emphasis in the motor control model of spinal stabilization. The course will expose the student to the current best evidence related to the concept of regional interdependence as it applies to spinal dysfunction.

AT 703 Evidence-based Therapeutic Exercise Systems (2 credits)
This course will cover the current best evidence related to non-contact injury risk factor assessment. Evidence-based injury prevention will be taught through screening and testing which will serve to guide corrective exercise intervention strategies. Students will be exposed to injury prediction/prevention research and gain clinical skills in performance of selected movement testing and corrective exercise. A component will include development of an evidence-based injury prevention program driven through the athletic pre-participation exam for different setting including high school outreach, collegiate, and community based programs.
AT 704.2    Curriculum Design    (3 credits; 2 days on-site)
This course prepares students to examine various classical and modern curriculum theorists and apply these theories to healthcare curriculum development. Students design a curriculum for their discipline.

AT 705.2    Program Design & Implementation    (1 credit)
This course is to serve as a culmination of prior didactic work in strength and conditioning and therapeutic exercise programs. It will focus on scenarios and problem solving of questions surrounding the design and implementation of exercise programs. It will give the student an opportunity to research those programs used by coaches, and therapists to achieve maximum results for their athletes.

AT 706    Directed Independent Study    (3 credits – WebStudy)
Students will prepare and demonstrate instruction (via video) of 2 instructional lessons based upon the principles presented in AT 620 Foundations of Pedagogy. The 2 lessons should complement each other in didactic and clinical mode. Emphasis will be on the instructional design, delivery, and assessment of learning process. Content will be credible and evidence-based (referenced). Upon completion of this directed independent study, the student will be able to:
1. Develop a learner centered syllabus (2) for a (1) didactic athletic training course and (2) clinical athletic training course associated with the didactic course.
2. Develop a didactic session utilizing a specified learning theory/technique in design and process.
3. Develop a clinical lesson utilizing a specified learning theory/technique and design process.
4. Demonstrate pedagogy knowledge of active learning instructional techniques and course development.
5. Utilize instructional media resources.
6. Demonstrate use of referenced and evidence-based information in the instructional sessions.
7. Choose appropriate strategies and techniques to evaluate student learning. One of the strategies must include a rubric (analytic or holistic)
8. Submit a 3 page reflective paper on your analysis and learning experiences of this directed independent study.

AT 714    Dissertation Prep Course    (1 credit)
This course will prepare students for the dissertation phase of the degree program. Students will have secured a committee and have developed an outline of their dissertation topic prior to taking the course.

AT 718.2    Athletic Training Program Administration    (3 credits)
This course will explore the athletic training faculty administrative role as a program director and clinical coordinator. Assessment of curriculum programs along with rubric development will be integrated and discussed. Emphasis will be placed on leadership and success in higher education. Students will develop a better understanding of their role as an administrator and faculty member and how to navigate the dynamic environment of higher education.
AT 726 Directed Independent Study* (3 credits – WebStudy)
This course will consist of the student performing a pilot research study in the area of Athletic Training. The topic to be covered will be mutually agreed upon by the instructor and the student. The student will generate a hypothesis, review of literature, methods, results and discussion sections. The student will describe the process necessary to develop a formal pilot research study, and demonstrate the ability to perform a non-formal pilot study. Describe the various sections pertinent to developing formal research such as a hypothesis, methods of data collection, analysis of results, discussion and conclusions. Upon completion of this course, the student will be able to:

1. Present a proposal for the pilot study as an extension of DIS AT 616.
2. Identify the objectives, hypothesis and scope of the pilot study.
3. Describe the methods for data collection to be used in the pilot study.
4. Describe the measurements to be considered in the pilot study.
5. Identify confounding variables that may interfere with the completion of the project.
6. Identify methods of data analysis to be used.
7. Submit a completed pilot study on a subject agreed to by faculty and the GPD.
Health Promotion and Wellness

**WE 600 Introduction to Health Promotion and Wellness** (2 credits; 1 day on-site)
This course will provide an overview of the concepts of health promotion, health education, public health, primary prevention, lifestyle, behavior, and wellness and, based on evidence, their relationships to each other and to secondary and tertiary care. The historical relevance of and evidence for focusing on individual and social determinants of health will be explored and an ecological model combining both approaches will be introduced. Typical intervention sites for effective health promotion programs will be discussed as well as a framework for implementing programs. Class format will include a personal wellness philosophy, lecture, and small group activities.

**WE 601.2 Epidemiology** (2 credits)
This course will provide an introduction and overview of the scientific foundations of health promotion and wellness. Emphasis will be placed on the fundamental principles of epidemiology as they apply to the prevalence and distribution of lifestyle-related disease. The course will enable students to analyze problems and make decisions based on applications of epidemiologic concepts and methods in a variety of health promotion settings. The use of vital statistics and rates, and descriptive, observational, and experimental studies will be discussed and applied to the environmental, social, physical, and biological determinants of health and disease. Class format will include lecture, article reviews, and small group activities.

**WE 602 Exercise Testing & Prescription** (2 credits; variable days on-site)
Principles of testing and prescribing exercise for the cardiopulmonary, musculoskeletal and neurological systems based on current evidence will be reviewed and practiced as they relate to populations with and without disability. Concepts learned will include aerobic and anaerobic exercise training, muscular strength, endurance and power training, flexibility enhancement, and balance training throughout the lifespan. Class format will include lecture and lab activities, including the performance of exercise testing and prescription with an individual of the student’s choosing.

**WE 603.2 Research Literacy** (2 credits - WebStudy)
Students will have the opportunity to read, critique, and discuss current research in health promotion. The primary purposes of this course are to enable students to be informed consumers of health promotion and wellness research, to identify and understand the critical components in research manuscripts, to coherently discuss strengths and limitations in a variety of research studies, and to determine how to incorporate sound evidence into practice. Class format will include lecture, article reviews, and presentations.

**WE 604 Resilience and Its Impact on Health** (1 credit)
The concept of resilience (the ability to adapt or recover rapidly) will be explored and discussed in relationship to health and well-being. Psychological, emotional and spiritual resources, such as coping, social support, meaningful connections, sense of life purpose, optimism, commitment, control, and reframing will be defined, and the evidence for each reviewed and discussed in terms of their ability to be learned, developed, and capitalized upon to improve health status. Class format will include lecture, experiential activities, small group activities and journaling.
WE 604.2  Resilience and Its Impact on Health  (2 credits; 1 day on-site)
The concept of resilience (the ability to adapt or recover rapidly) will be explored and discussed in relationship to health and well-being. Psychological, emotional and spiritual resources, such as coping, social support, meaningful connections, sense of life purpose, optimism, commitment, control, and reframing will be defined, and the evidence for each reviewed and discussed in terms of their ability to be learned, developed, and capitalized upon to improve health status. Class format will include lecture, experiential activities, small group activities and journaling.

WE 606  Directed Independent Study  (3 credits – WebStudy)
The student will select a health-related behavior, such as physical activity, helmet or seat belt use, oral healthcare, and conduct a literature review to identify evidence for both the individual and social influences on the chosen behavior. With instructor approval of the topic, a minimum of 10 articles should be selected, annotated and utilized to write a paper in which the student will advocate for one approach as the best means to accomplish behavior change in an identified population.

WE 608  Risk Factors and Risk Reduction Strategies  (2 credits; 1 day on-site)
The evidence related to risk factors for disease due to lifestyle choices will be reviewed and discussed in this course, including but not limited to smoking, nutritional choices, obesity, inactivity, diabetes, social support, and stress. Evidence for the prevention of diseases through the adoption of healthy behaviors will also be discussed, such as osteoporosis and cancer. Strategies for adopting positive health-related behaviors will be explored. Class format will include lecture, small group activities, and a group project.

WE 609.2  Population Health Issues  (2 credits)
In this course the health issues of specific populations will be discussed, including gender and age specific populations, as well as one or two additional populations driven by class preferences. Additional populations may include shift workers, various ethnic groups, or religious groups. Health and well being issues specific to each population selected will be discussed and explored and evidence-based strategies developed to address the issues for each population. The ecological model of health promotion will be explored. Class format will include lecture and small group activities.

WE 614  Motivation and Coaching  (1.5 credits)
In this course, the prominent methodologies of coaching and motivation will be presented. Theories of compliance with behavior change will be explored. Application of these methods to various ages and groups will be discussed. Class format will include lecture, small group activities, and self-journaling.

WE 614.2  Motivation and Coaching  (2 credits; 1 day on-site)
In this course, the prominent methodologies of coaching and motivation will be presented. Theories of compliance with behavior change will be explored. Application of these methods to various ages and groups will be discussed. Class format will include lecture, small group activities, and self-journaling.
WE 616  Directed Independent Study  (3 credits – WebStudy)
The student will select a topic relative to motivation and coaching, and conduct a
literature review to identify evidence to bolster the students’ knowledge of a
methodology that is of interest and of benefit to them. With instructor approval of the
topic, a minimum of 10 articles should be selected, annotated and utilized to write a
paper in which the student will explain background, theory, methodology as well as
how and why they can apply this to their professional interests in the future.

WE 700  Theories of Behavior Change  (3 credits)
This course is designed to expose the student to the fundamental theories driving
research and practice in health education, and to provide an opportunity for the
student to put theory into practice based on current evidence. A variety of theories
will be reviewed and the opportunity for the student to become familiar with the
literature applying the theories provided. Working in a group, students will design a
health education program based on a given theory and supported by evidence and
present the findings to the class. Class format will include lecture and group
activities.

WE 701  Cultural Competency in Wellness Practice  (1 credit)
The influence of culture on health and well-being will be explored in this course.
Issues of cultural competency will be discussed with the aim of improving provision
care based on the evidence within the context of health promotion. Class format
will include lecture, presentations, and journaling.

WE 702  Nutrition  (1 credit)
This course is designed to survey current nutrition issues as they relate to humans
across the lifespan such as: food policy, industry trends, and resources for the non-
Dietetic health practitioner to evaluate claims, research and evidence-based
guidelines for nutrition and nutritional supplements.

WE 702.2  Nutrition  (2 credits; 1 day on-site)
This course is designed to survey current nutrition issues as they relate to humans
across the lifespan such as: food policy, industry trends, and resources for the non-
Dietetic health practitioner to evaluate claims, research and evidence-based
guidelines for nutrition, nutrigenomics, and supplements.

WE 703.2  Ergonomics in Life, Work and Leisure  (1 credit)
The science of fitting the task to the individual will be examined in this course in a
variety of situations, including in the work place, at home, and during the
performance of leisure activities. Students will learn the basic principles of
ergonomics evaluation and effective intervention practices and apply those principles
to a variety of situations within the context of the whole person. Class format will
include lecture, video analysis, lab, and practice.

WE 706  Directed Independent Study  (3 credits – WebStudy)
Students will read and critique research using one of two options. The critique
should help the student prepare a review of literature.

WE 707  Ecological Principles in Health Promotion and Wellness  (1 credit)
The ecological model of health promotion will be explored in depth in this course and
the student will apply it to an individual behavior or a group health issue of choice.
The course is designed to create awareness and understanding of the evidence for the multiple influences on health and wellness, both individual and societal (including political and regulatory), and to guide the student through a process of integrating a health promotion/wellness model into their current clinical practice, educational context, or other setting based on sound evidence. Class format will include lecture, individual project and presentation, and small group activities.

**WE 708.2 Technology and Health Promotion**  
(1.5 credits)  
The use of technology and the Internet to manage health and wellness will be the focus of this course. The student will gain exposure and experience with health risk appraisal and on-line information sources. The course will include discussion of the importance of evaluating on-line information sources, a review of the literature on the efficacy of on-line information, and ways to enhance learning with the use of technology. Class format will include lecture and hands-on experiential practice.

**WE 712 Financial Management & Marketing in Health Promotion**  
(1 credit)  
The business management side of health promotion and wellness will be discussed in this course. Program development and management costs, reimbursement strategies, benchmarking, marketing, and evaluation of programs and services will be explored. Class format will include lecture, small group activities, and oral presentations.

**WE 712.2 Financial Management & Marketing in Health Promotion**  
(2 credits; 1 on-site day)  
The business management side of health promotion and wellness will be discussed in this course. Program development and management costs, reimbursement strategies, benchmarking, marketing, and evaluation of programs and services will be explored. Class format will include lecture, small group activities, and oral presentations.

**WE 713.2 Facilities Design and Operations**  
(1 credit)  
Information about designing and operating a wellness facility will be presented in this course. Topics will include ADA compliance, safety, health regulations, and environmental controls. Students will design a facility from scratch and/or modify an existing facility to meet the needs of a wellness program. This course is also designed to provide knowledge and skills to enable the student to respond to common medical emergencies. The acute management of breathing and cardiac emergencies, bleeding, and sudden injuries and illnesses will be reviewed and the student will be taught an evidence-based triage approach to management of these situations. Class format will include lecture, lab, practice and small group activities.

**WE 714 Health Promotion & Wellness Practice**  
(2 credits)  
In this capstone course of the curriculum, students will combine all of the knowledge and skill learned in previous courses to create a realistic health promotion/wellness practice within the structure and limitations of their scope of practice and licensure and their current or desired practice setting. Typical health promotion and wellness practices will be discussed and their effectiveness evaluated. Class format will include lecture, small group activities, and individual project and presentation.
WE 715.2 Integrative Therapies in Health Promotion (1 credit)
The use of complementary and alternative therapies in the context of health promotion will be explored in this course using an evidence-based approach. Topics introduced may include energy medicine (Reiki, Qigong, healing touch), manipulative and body-based practices (massage therapy, reflexology, Rolfing, Trager bodywork, Alexander technique, Feldenkrais), or mind-body approaches (relaxation, hypnosis, visual imagery, meditation, yoga, biofeedback, tai chi, prayer). Students will select an approach to explore in greater detail and about which to present evidence-based information to their peers.

WE 716 Directed Independent Study (3 credits – WebStudy)
Students will identify a set of “at risk” clients (cvd, osteoporosis, etc.) and develop a program for them that is based on appropriate theories, culturally sensitive and appropriate, and population specific. The student will write a paper describing the program, including the evaluation tool used, program components, client experience, expected outcomes, and evaluation.

WE 724 Doctoral Seminar (2 credits)
Each doctoral student will be required to present a dissertation proposal. Grant writing, Carnegie Classification of Institutions of Higher Learning, diversity, teaching, and Boyer’s model of scholarship will be explored.
Nursing

NU 600   Philosophy of Science       (2 credits; 1 day on-site)
This course explores contemporary philosophic viewpoints on the nature of science as it relates to nursing. Concepts of logic, theories of reasoning, epistemology, and scientific validation are explored with the link of philosophy of science to Nursing’s heritage and knowledge formation.

NU 601.2 Creating an Evidence-based Practice Environment       (2 credits)
This course underscores synthesis of the best research evidence with clinical expertise and client values to direct practice decisions for quality health outcomes. Emphasis is placed on how clinical questions are formed, finding and appraising evidence, and how evidence can be transformed to develop new clinically relevant knowledge. Models and processes of evidence-based practice are introduced to promote strategies for best practice and quality improvement of healthcare. The focus is to acquire knowledge and understanding of research evidence reported in the literature, critique findings, and apply to practice.

NU 608   Scientific and Professional Writing      (1 credit - WebStudy)
This pass/fail course reviews use of library resources, including search methodologies for health and health-related literature. The, American Psychological Association (APA) guidelines for preparation of formal papers and composition and style of scientific/professional manuscripts are investigated.

NU 614E Writing For Publication (Elective)       (1 credit)
In this course, principles of preparing research articles for publication will be examined. In a combination of lecture, discussion, and hands-on exercises, the student will learn about the process of getting a paper published, journal editors’ expectations, the ethics of scholarly publication, and the function and content of the sections of a scientific article.

NU 702   Health Policy      (2 credits - one Module 2 day)
This course is to instill understanding and appreciation of the complexities involved in developing, implementing, and establishing healthcare policy. Students will evaluate various societal and political perspectives that influence policy processes. Students will evaluate the effect of policy decisions on healthcare delivery, health outcomes, and professional practice.

NU 703.2 Nursing Leadership and Healthcare       (3 credits; 2 days on-site)
This course examines ways to synthesize theoretical leadership concepts with personal and professional values embedded in a clinical practice environment. Issues of power, innovation, working with teams, change and leadership/healthcare delivery models are addressed. Themes of self-reflection, self-mastery, and interpersonal skills are explored.

NU 704   Healthcare Economics      (2 credits)
The purpose of this course is to explore the components of the structure that provides and supports healthcare, healthcare research and the education of healthcare practitioners. The student will be introduced to components of healthcare financing, general accounting principles and budget management. The course will
explore models for healthcare planning and decision making, including cost
effectiveness and return on investment analysis.

**NU 706 Directed Independent Study**  
(3 credits – WebStudy)  
This course is a forum for students to explore with colleagues, research problem
development, theoretical foundations, methodology, and data analysis to launch their
dissertation research. Each student will be required to produce a defensible
dissertation proposal that will be presented as part of the course work for NU 709.

**NU 707E Measurement Issues in Nursing Research**  
(1 credit)  
This course focuses on several aspects of measurement in research:

- The fit of a conceptual framework with theory-based research question,
  including operational definitions of variables, measurement issues and
  ultimate outcomes. Measurement issues include data collection (method,
  choice of instruments) and appropriate data analysis.
- The application of measurement theory and psychometric techniques in the
  development, psychometric testing and use of measurement instruments for
  nursing and healthcare research.
- An evidence-based approach to comparing and choosing existing
  instruments for any research or clinical project.
- The operationalization of concepts, assessment of reliability and validity, and
  appropriate use of measurement instruments. A variety of instruments will be
  discussed, including quantitative, physiological and qualitative instruments
  methods.
- Discussion of ethical issues involved with measurement.

**NU 708.2 Developing the Role as Professional**  
(1 credit)  
This course is capstone in nature. It is designed to synthesize the various key
concepts underpinning the curriculum: theory based practice models, leadership,
health policy, ethics and social responsibility, role competence, and research to
complement the student's previous experiences and career goals. Students have
freedom to develop professional goals within the outcomes of the course to meet
individual needs. The course will facilitate the student's transition to their roles as
evidence-based clinicians, nurse educators, and/or healthcare administrators.

**NU 709.2 Colloquium in Nursing**  
(2 credits)  
This course augments students' individualized work with their doctoral dissertation
chair and committees to provide guided study in the proposal generating process.
Additionally, strategies and options to gain financial support for research will be
addressed. The colloquium method provides an opportunity for doctoral students to
share the most recent developments in their doctoral dissertation proposals. Each
student is required to report on his/her research proposal and to critique other
students' proposals.
Orthopaedics & Sports

OS 600  Principles of Connective Tissue Injury and Repair  (2 credits; 1 day on-site)
This course will provide an overview of connective tissue injury including degenerative processes, healing, and rehabilitation implications. Understanding of the relationships among connective tissues such as bone, ligaments, cartilage, capsule tendon and muscle on a micro and macro level will be emphasized. Interventions aimed at changes in the connective tissue such as massage, ASTM, mobilization, stretching and modalities will be discussed. The course will use lecture and case study format. Students will make presentations on a related topic during the class.

OS 601.2  Clinical Anatomy, Biomechanics, and Pathophysiology of the Spine  (3 credits)
This class will study the clinical application of anatomy, biomechanics and pathophysiology of the spine to examination and intervention techniques in patients with spinal dysfunction. Its focus will be on the integration of basic sciences with application to clinical decision-making regarding disposition and intervention. Surgical procedures and their impact on rehabilitation techniques and functional progression will be discussed. Students will choose a specific area of interest and prepare a 20-minute presentation on the topic. The class format will include oral presentations, lecture, demonstration, videos and cadaver dissections.

OS 603.2  Applied Exercise Science  (2 credits)
This course will emphasize the principles of conditioning and exercise science. It will provide a discussion of muscle physiology and its relationship to strength, power and endurance. Important subjects covered will include progressive resistance exercise, muscle contraction types, impact loading, plyometrics, sports conditioning for the healthy individual, and general principles of conditioning in rehabilitation. Topics to be covered will also include mobility activities (including stretching) and cardiovascular training and its application to clients seen in orthopaedic and/or sports physical therapy settings. This course will be taught using both lecture and lab experiences.

OS 605.2  Regional Intensive: Hip and Knee  (2 credits)
This course covers the clinical anatomy, biomechanics, examination, disposition and rehabilitation of injuries to the hip and knee. Its focus will be on the integration of basic sciences with application to clinical decision-making regarding disposition and intervention. Surgical procedures and their impact on interventions and functional progressions will also be discussed. Instructional modalities will include oral presentations, lecture, demonstration and practice.

OS 606.2  Research Review, Critique and Synthesis  (2 credits – WebStudy)
The student will conduct a literature search on a selected topic (approved by the Graduate Program Director) and identify 10 pertinent research based articles. The student will also complete a one to two-page annotated bibliography for each article in the format provided. Findings are to be synthesized into a 5 to 10 page paper applying the results to orthopaedic or sports physical therapy. The student is also expected to generate a list of statistical tools used in the data analysis in the articles.
OS 608   Scientific Writing   (1 credit)
This course will raise the current level of student’s scientific writing ability by reviewing the mechanics of scientific writing including grammar, composition and constructs, and format. Mechanics of citation management systems and various editorial formats will be discussed.

OS 616.2   Policy Research and Analysis   (3 credits – WebStudy)
In this course, each student will choose a current topic of controversy or debate within orthopaedic or sports physical therapy that is of interest to you and prepare a 10-15 page paper on the issue. This can be a clinical question, policy or professional issue. The student will use a variety of resources to provide background on the issue as well as recommendations for process or outcome related to this topic. Each student should discuss the topic with the Graduate Program Director before beginning the project.

OS 710   Neurobiology of Pain and Its Management   (1 credit)
This course examines the neurobiology and current theories of pain and its management. Included is a review of the physiology of pain, peripheral and central mechanisms, and associated interventions. Information will be applied to clinical problems such as chronic back pain, fibromyalgia, myofascial pain and neurogenic pain. The course will include discussion of appropriate measurement and outcome tools, and will be taught in a lecture and case study format.

OS 716   Directed Independent Study   (3 credits – Module 3 Only)
This course will emphasize the advanced critique of the literature. Students will select 5 research papers on a topic of interest. Papers selected should use quantitative research methods. Review and abstract the paper according to established guidelines. Following the abstract process, review the methods section thoroughly. Describe how you would change the methods if you were to do the research. Be sure to include why you would make those changes and provide references for such (i.e. changes to improve reliability, validity, etc. and cite methodology literature). This can be done in text form, table form, outline form or whatever style works for you. If there are pros and cons (as there often are) to your recommended changes (such as improving internal validity at the expense of external validity) be sure to include these relative advantages and disadvantages as well as recommendations for achieving appropriate balance.

OS 717   Differential Diagnosis in Orthopaedic and Sports Physical Therapy   (2 credits)
This course is designed to explore concepts of probability based differential diagnosis. Presents the evidence for diagnosis using properties of diagnostic tests such as sensitivity, specificity, likelihood ratios and predictive values. Participants will learn to review the diagnostic literature against evidence-based practice criteria for validity to facilitate appropriate selection of clinical diagnostic tests. Pathology of the major body systems and regions will be covered with current evidence-based practice diagnostic standards, as they are available in the professional literature. Competencies gained through the course are intended to help prepare the orthopaedic and sports physical therapist to function as a direct access provider capable of making highly accurate diagnostic decisions according to the best available evidence. Teaching methods: lecture, independent student work on critically appraised topics, student presentations, interactive laboratory sessions, and
case reviews.

OS 719.2 **Manipulation in the Management of Patients with Spinal Disorders**  
(3 credits)  
This course presents the history and development of high velocity thrust and locking techniques for treating segments of the spine. It will include a review of the indications and contraindications for manipulation, as well as the literature on the effectiveness and risks associated with manipulation. Manipulation techniques will be demonstrated and practiced in lab.

OS 722 **Current Topics in Orthopaedic and Sports Physical Therapy**  
(1 credit)  
This course will provide students with exposure to current research topics within orthopaedic and sports physical therapy. It will also prepare students for their oral dissertation proposal defense by performing a mock proposal defense in front of their peers.
Pediatric Science

P 600  High Risk Neonates: NICU Management and Follow-up  (2 credits)
An overview is provided of neonatal neuropathology, common medical conditions of developmentally at-risk neonates and theoretical frameworks for neonatal therapy practice. Concepts of risk assessment, description and analysis of neonatal therapy examination and intervention methods, and review of interdisciplinary outpatient follow-up options are included. Critical pathways for neonatal practice and competency assessment guidelines are outlined and the evidence basis for neonatal therapy practice is evaluated as well as subspecialty clinical competencies.

P 603  Measurement in Pediatric Therapy  (1 credit)
This course focuses on instruments and clinical observation protocols used in pediatric therapy and in clinical research to measure development, sensory and motor performance, functional tasks, joint/muscle mobility, neurological integrity, balance, and behavior. Psychometric properties and relevance are analyzed for measuring clinical change.

P 608.2  Topics in Assistive Technology  (2 credits)
Theoretical frameworks are reviewed to guide the application of technology for children with disabilities in early intervention and school environments. Strategies for evaluating, designing and selecting technology systems are reviewed in addition to exploration of specialized clinical competencies.

P 701  Manual Therapy for Functional Mobility in Children with Neuromusculoskeletal Impairments  (2 credits)
In this course, manual therapy techniques are introduced as an adjunct for improving functional mobility in children with joint and tissue restriction. A laboratory component with an adult partner will provide guided practice in using manual therapy and myofascial approaches for later application in examination and intervention plans for children. A video of a child with movement restriction from each student’s caseload (or a colleague’s caseload) will provide the basis for design of examination and intervention plans.

P 702  Administration and Consultation In Pediatric Therapy  (1 credit)
Models and perspectives are analyzed for administering, leading, and consulting in pediatric therapy settings with strategies for managing challenging work setting dynamics included.

P 703  Seminar on Children and Youth In Early Intervention and Education Environments  (1 credit)
This course will include discussion and application of laws, practice guidelines, and service delivery models for early intervention and school-based practice settings. The development and use of individualized family service plans and individualized education programs are addressed. Clinical decision-making frameworks are used with peer-reviewed literature to analyze and support selected interventions through case-based presentations. Analyses of practice issues and controversies are included.
P 704.2  **Topics in Pediatric Pathologic and Genetic Conditions**  (2 credits)
This course provides an overview of pathophysiology, clinical course, and pediatric therapy management of children with autism, developmental coordination disorder, burns, rheumatoid arthritis, sports injuries, torticollis, organ transplants, spinal injury, anxiety disorders, congenital limb deficiencies, osteogenesis imperfecta, arthrogryposis, hemophilia, cancer, and common chromosomal abnormalities. Students will present a 40-minute lecture (with active learning components) and conduct a 15 minute question/answer period. Each student’s instructional session is based on a needs assessment and lesson plan designed in a previous Directed Independent Study (P 616.2). Each student’s presentation is videotaped for self-analysis with a reflection paper submitted to analyze strengths, weaknesses, and future presentation strategies.

P 706.2  **Grant Writing: Directed Independent Study**  (3 credits – WebStudy)
Students will review grant writing strategies, select an appropriate granting agency, obtain grant application criteria and current funding priorities, and submit a proposal for obtaining funding for the dissertation research. **Prerequisites:** P 721.2, CC 630, CC 710, CC 610, CC 611, CC 612.

P 707.2  **Management of Oral-motor and Feeding Impairments in Medically Compromised Infants and Children**  (1 credit)
Examination and management of feeding and swallowing disorders in infants and children with neuromuscular and structural deficits are reviewed with discussion of related evidence. A range of interventions is explored including transitions to oral feeding from supplemental feeding lines.

P 708  **Theoretical Frameworks in Pediatric Therapy**  (1 credit)
Theoretical frameworks and models are examined with application to pediatric science and practice. Dynamic systems, information processing, motor control, motor learning, and ecological theories are included.

P 712.3  **Topics in Pediatric Cardiopulmonary Conditions: A Multi-system Approach**  (1 credit)
The pathophysiology and clinical management for children with cardiac or pulmonary conditions are analyzed including cardiopulmonary conditions secondary to neuromuscular disorders. The evidence base for examination and intervention is reviewed.

P 713.2  **Topics in Pediatric Movement Disorders**  (1 credit)
In this course, current approaches are reviewed for managing movement disorders to include discussion of muscle tone examination, strength, and functional training to support medical and pharmaceutical management of spasticity and “mixed” tone. Pediatric therapy roles in managing tone and movement disorders are analyzed and collaboration with tone/spasticity management teams and parents is addressed.

P 716.2  **Dissertation Design: Directed Independent Study**  (3 credits – WebStudy)
Students will participate in WebStudy instruction and discussion focused on the designing the dissertation. Students will a) design a conceptual framework relating to variables in own proposed dissertation research and participate in web-based discussions on constructing conceptual frameworks; b) submit prospectus for dissertation research according to the format in RMUoHP dissertation guidelines;
due one month before P726 course to allow dissemination to research panel members for “mock” proposal defense; c) analyze format options in RMUoHP dissertation guidelines, select preferred dissertation format; and draft a table of contents delineating proposed chapter titles and subcategories. Prerequisites: P 708, CC 630, CC 710, CC 610, CC 611.

P 717 Behavioral Management for Children With Disabilities
(1 credit)
In this course, developmental behavior theory and behavioral interventions are reviewed. Parent-child-therapist interactions are discussed and interactions examined between sensory systems and emotional stability during therapy and daily activities.

P 718.2 Adolescents and Adults with Cerebral Palsy:
Lifespan Challenges
(1 credit)
Changes across the life span are analyzed in the musculoskeletal, cardiopulmonary, functional, vocational, social, self-esteem, and family status of adolescents and adults with cerebral palsy. Implications of this cascade of changes for pediatric therapy management are discussed with analysis of the literature on outcomes in adulthood.

P 719 Topics in Family Studies
(1 credit)
Topics are focused on family system theories, theoretical and conceptual frameworks of family development and functioning, extrinsic and intrinsic factors that influence family functioning, and ecological/transactional models of child development. Concepts of family assessment and family-centered care, culture, stress, and coping are included.

P 723 Legal and Ethical Issues in Pediatric Therapy
(1 credit)
Legal, ethical, risk management, informed consent, documentation standards and employment contracts are reviewed. Expert witness and deposition procedures are discussed, and strategies for identifying and managing misconduct in the workplace are outlined.

P 726 Seminar on Pediatric Therapy Research
(1 credit)
In this seminar, students will develop and present dissertation proposals to a panel of researchers for critique and discussion. The 25 minute proposal presentations (power point format) will be followed by 20 minutes of discussion. Each presentation will be videotaped for self-assessment, and written feedback will be provided from panel members and classmates. Prerequisites: CC 610, CC 611, CC 612, CC 630, CC 710, CC 711, P 727.

P 727 Statistical Applications in Pediatric Therapy
(1 credit)
This course offers an expanded overview of statistical tests (including multivariate analyses) used in pediatric therapy research. Students will present dissertation research questions, hypotheses, methods and data analysis plans for critique and discussion. Prerequisites: CC 610, CC 611, CC 612.

P 728.2 Survey of Qualitative Research in Pediatric Therapy
(1 credit)
An introduction to the major approaches used in conducting qualitative research is presented with an application of these methods to problems and phenomena in pediatric therapy. Procedures for exploration and application of sampling,
interviewing and observation techniques, data analysis methods, and critiquing of qualitative research are addressed.

P 730 Seminar in Advanced Oral Motor and Feeding Approaches for Children
This seminar focuses on analysis and application of concepts and strategies for managing children with oral motor and feeding impairments. It is a continuation of P 707.2 with application for preschool and school aged children and with emphases on clinical decision-making and parent teaching. Related literature supporting examination and intervention options will be identified and analyzed. In addition to lecture and discussion, learning methods include small group laboratory experience with texture, viscosity and temperature to analyze sensory, motor, and timing aspects of swallowing and use of varied feeding equipment options.
Post-professional Doctorate Programs

Doctor of Nursing Practice

DNP 600  Transformational Leadership in Advanced Practice  (2 credits)
This course examines the emerging literature on evidence-based management, and the use of evidence in decision-making, resource management, and strategic planning. Issues of power, innovation, interprofessional collaboration, change, and leadership/healthcare delivery models are addressed. Self-reflection, self-mastery, professional integrity and credibility, interprofessional collaboration, and other leadership-related concepts are themes that underpin the course. Prerequisites: DNP 608.2, DNP 610, DNP 614, DNP 617.

DNP 601  Creating an Evidence-based Practice Environment  (2 credits; variable days on-site)
Evidence-based clinical practice to achieve the most effective outcomes is a major focus in healthcare. This course underscores the synthesis of the best research evidence with clinical expertise and client values to direct practice decisions for the best health outcomes. An emphasis will be placed on how research questions are formed, finding and appraising evidence, and how research can be transformed to develop new clinically relevant knowledge. Models and processes of evidence-based practice will be introduced to promote strategies for best practice and quality improvement of healthcare.

DNP 602  Health Policy  (1 credit)
Students will be given the opportunity to weigh the impact of organizational, professional, and governmental policies on their practice and lead changes in the broader policy arena to improve practice.

DNP 602.2  Health Policy  (2 credits; 1 day on-site)
Students will be given the opportunity to weigh the impact of organizational, professional, and governmental policies on their practice and lead changes in the broader policy arena to improve practice.

DNP 603  Informatics and Evidence-based Information  (1 credit)
This course is designed as a survey course for the advanced clinician to explore major existing and emerging technologies and their potential impact. Systems are addressed that support patient centered, safe, effective, timely, efficient and equitable care. An emphasis is placed on the role that information technology supports these systems and on development and use of technologies in 21st century healthcare. Electronic medical records (EMRs), patient safety systems such as bar-coding medication systems and event reporting systems, tele-health modalities from remote monitoring in ICUs to patient homes, web-enabled implantable devices, and web-based patient and professional education are among the topics explored.

DNP 605.2  Data and Decision-making in the Healthcare Environment  (2 credits)
This course focuses on critically and effectively applying data within the context of the student’s capstone project. The course builds on research specific to methodology and statistics necessary for translating data into information. The critique of the reliability, validity, and relevance of data is emphasized.
DNP 606  Directed Independent Study: Specialization (4 credits – WebStudy)
Residency
This DIS provides the student an opportunity to develop competence in a specialty area of interest. The student, in coordination with the GPD, will select an area of specialization (i.e., wellness, executive leadership, systems, pharmacology, gerontology) with an emphasis on interdisciplinary collaboration. The DIS supplements the theory coursework and includes opportunities to synthesize prior learning while observing, testing, and evaluating theories and evidence-based clinical practice. The DIS requires the selection of one or more approved advanced practice leaders as a preceptor. Learning activities are agreed upon by the student, preceptor, and faculty, and meet the objectives of the DIS.

DNP 607  Legal and Ethical Issues in Advanced Practice Nursing (1 credit - WebStudy)
This course focuses on approaches to implement recent Institute of Medicine recommendations within an ethical context. Patient safety and privacy, developing interdisciplinary systems and structures to improve the quality of patient care, risk management, and ensuring compliance with laws and healthcare regulations such as HIPAA will be explored. The course highlights the development of effective strategies for managing the ethical dilemmas inherent in organizing evidence-based healthcare delivery at the individual, organizational, or systems level.

DNP 608.2  The Advanced Clinician as Communicator (1 credit)
This course is designed to provide a broad introduction to human communication in a healthcare context. The course will highlight issues such as provider-client communication, intraprofessional communications, intercultural health communication, and alternative medicine. The course explores the use and critiques of various communication strategies in the change process. The course will address effective communication strategies to implement change. Topics: marketing, conflict management and use of communication media for various audiences. Prerequisites: DNP 601, DNP 617.

DNP 610  Capstone Project Seminar 1 (1 credit)
In this course, an overview of project planning will be highlighted including emphasis on project management, planning the project and developing a mission, vision, goals, and objectives for the project. Each student will contract with the GPD to plan, initiate, and evaluate a research-based change in advanced practice nursing that is evidence-based and involves applied research. Prerequisites: DNP 601, DNP 602, DNP 603, DNP 615.2, DNP 617.

DNP 611.2  Capstone Project Seminar 2 (2 credits)
Continued project planning will occur including emphasis on project management, producing a workable schedule, and project control and evaluation. Final planning of the capstone project will occur. Each student will finalize with GPD and mentor his/her plan to structure a change project in advanced practice nursing that is evidence-based and involves applied research. Prerequisite: DNP 610.

DNP 612.2  Role Transformation (1 credit)
This symposium course explores role socialization, advancement of clinical and leadership abilities, new opportunities, and marketing the advanced practice role.
Additional discussion will occur regarding how to organize care to address emerging clinical problems. Cost effectiveness for evaluating clinical initiatives will be focused.

DNP 613 Healthcare Economics (2 credits; 1 day on-site)
The course will explore the principal ways US healthcare is structured and financed at the national, state, and local levels, and how policy affects the healthcare environment. Current and emerging issues and principles of business finance related to clinical care delivery will be analyzed using case studies and participative learning experiences. Implications for advanced practice leaders will be explored.

DNP 614 Outcomes Management and Evaluation (2 credits)
This course outlines the impact of the advanced practice nurse on healthcare delivery and fulfillment of care structures outcome measurements in the advanced practice setting from an evidence-based practice model. Topics include the history and evolution of quality of care measurement and improvement and their influence on contemporary methods for assuring high quality care in the United States; approaches to and challenges of assessing patient outcomes, especially self-reported outcome; and use of outcome measurement frameworks, selection of outcome measures and use of outcome data in the clinical practice setting. Practice improvement, innovation and testing of interventions and care delivery models, and evaluation of healthcare outcomes are explored. Prerequisites: DNP 601, DNP 602, DNP 615.2, DNP 617.

DNP 615.2 Professional Writing (1 credit)
This course reviews PubMed and search methodologies, American Psychological (APA) editorial format, the composition of the introductory paragraph, and the style of academic writing, its construction and formats.

DNP 615.3 Writing for the Professions (1 credit)
This course reviews PubMed and search methodologies, American Psychological (APA) editorial format, the composition of the introductory paragraph, and the style of academic writing, its construction and formats.

DNP 616 Directed Independent Study: Health Policy Residency (4 credits – WebStudy)
This DIS provides the student an opportunity to develop competence in health policy. The student, in coordination with the GPD, will select an area of local, national, or international focus and emphasis on building coalitions and working with a public or private organization to create policy-level changes for practice. The student will be given the opportunity to weigh the impact of organizational, professional, and governmental policies on practice and lead changes in the broader policy arena to improve practice. The DIS supplements the theory coursework and includes opportunities to synthesize prior learning while observing, testing, and evaluating the effect of health policy on evidence-based clinical practice. The DIS requires the selection of one or more approved advanced practice leader as a preceptor. Learning activities are agreed upon by the student, preceptor, and faculty to meet the objectives of the DIS. Pre- or co-requisite: DNP 602.
DNP 616.2 Directed Independent Study: Health Policy Residency

This DIS provides the student an opportunity to develop competence in health policy. The student, in coordination with the GPD, will select an area of local, national, or international focus and emphasis on building coalitions and working with a public or private organization to create policy-level changes for practice. The student will be given the opportunity to weigh the impact of organizational, professional, and governmental policies on practice and lead changes in the broader policy arena to improve practice. The DIS supplements the theory coursework and includes opportunities to synthesize prior learning while observing, testing, and evaluating the effect of health policy on evidence-based clinical practice. The DIS requires the selection of one or more approved advanced practice leader as a preceptor. Learning activities are agreed upon by the student, preceptor, and faculty to meet the objectives of the DIS. Pre- or co-requisite: DNP 602.2.

DNP 617 Theoretical/Conceptual Thinking: Application for Clinical Practice

This course explores the theoretical foundations of practice, the conceptual models to implementation research, and strategies to implement evidence-based approaches to practice projects. Learning focuses on the application of theory-directed design, implementation, and evaluation while applying evidence to transform healthcare systems.

DNP 619 Capstone Primer

TBA.

DNP 797 Capstone Project

Each doctoral student will be required to complete a capstone project that is an evidence-based practice project and involves applied research. There are four steps that are completed after IRB approval of the capstone project. These steps include: (a) conduct a needs assessment; (b) design a system change based upon your needs assessment using the current evidence on the topic; (c) implement the system change; and (d) evaluate the outcomes of the project. The evaluation should include financial, clinical, or educational components as appropriate to the project. An oral presentation of the project will be held on site at the completion of the project.
Post-professional Doctor of Occupational Therapy & Transitional Doctor of Physical Therapy

Core Courses

CC 505 Evidence-based Concepts of Radiographic Imaging (1 credit)
This course is designed to cover the fundamental principles of radiographic imaging procedures. Integrates the diagnostic utility of imaging procedures into clinical decision-making. Develops skills necessary to recognize common normal and abnormal radiographic findings of the extremities, spine and CNS.

CC 506 Qualitative Inquiry and Methodology (1 credit)
This course introduces the student to the major approaches of qualitative research and the application of these methods to problems and phenomena in occupational therapy. Importance is placed on the appropriate use of qualitative inquiry and differences across qualitative approaches. Exploration and application of topics such as interviewing techniques and reporting of qualitative research are addressed. This course also examines the process of evaluation and critical appraisal of research studies using qualitative methods.

CC 507 Critical Inquiry 1: Quantitative Issues in Published Research (1 credit)
This course will involve the study of data analysis, statistics, and results reported in scientific literature for the physical and occupational therapist. Basic and advanced topics in statistics will be reviewed with an emphasis on interpreting data analysis methods and results commonly reported by authors in occupational and physical therapy literature. Students will learn to use the course text as a reference to understand and interpret statistics reported in journal articles, and to make judgments about the appropriateness of reported methods, interpretations, and conclusions based on research design, data reported in the articles, and consideration of assumptions underlying applied statistical methods. Examples from current occupational and physical therapy literature will be cited throughout the course to illustrate concepts and improve students' ability to interpret and critique the work of others. Foundational knowledge from this course is needed for the Evidence-based Practice concepts presented in CC 527.

CC 510 Pharmacology (1 credit)
This course will increase the experienced occupational and physical therapist’s understanding of the impact prescribed and OTC drugs will have on the outcome of therapy interventions. The basic text will be augmented by research studies and systematic reviews that support the use of specific medications for patients/clients who have medical conditions commonly seen by therapists. Therapists who have a general understanding about the pharmacodynamics and pharmacokinetics of commonly prescribed medications, provide a valuable resource to the medical team. Special emphasis will be placed on applying this knowledge to a spectrum of health professional practices.

CC 527 Critical Inquiry 2: Evidence-based Practice (1 credit)
This course is designed to prepare healthcare professionals with the knowledge, skills and abilities necessary to make independent judgments about the validity of clinical research and to implement evidence-based clinical practice in their careers. This course will focus on the concepts of evidence-based practice with emphasis on
forming answerable clinical questions and effective literature search strategies. The evaluative approach to appraising the research literature will prepare the students to judge the evidence on: 1) the accuracy and validity of diagnostic tests and the application of important diagnostic tests in the care of a specific patient; 2) the effectiveness of clinical interventions; 3) the natural history of health-related conditions; 4) risk of harm from select preventative and therapeutic interventions. Based on presentation of case scenarios, students will be required to formulate the key question(s), rapidly search medical and health-related databases, appraise the evidence with a critical analysis and describe application of the evidence in a clinical context.

CC 533.2 Educational Interventions in Practice (1 credit – WebStudy)
This course will introduce the student to the latest evidence for planning, implementing, and assessing effective educational interventions in occupational therapist and physical therapist practice. Course content is focused on clinical application using a process model of educational intervention and includes: educational theory related to learning by children and adults, effective teaching strategies, and health promotion/disease prevention concepts. The student will also be introduced to application of Microsoft® PowerPoint in the development and delivery of multimedia presentations for private and public consumption. This course consists of in-class discussion, laboratory and lecture.

CC 540 Marketing and Customer Service (1 credit – WebStudy)
This course provides an important decision-making framework for positioning and branding healthcare services. The course considers emerging trends in healthcare and issues relevant to effective program design, distribution, pricing, and promotion. Participants will develop sound marketing, public relations, and customer service plans. The course covers the fundamentals of marketing strategy. Emphasis is placed on the application of these concepts to marketing decisions with the goal of developing or enhancing students’ skills at critically thinking about marketing management issues. Students learn how to integrate and apply marketing theory and strategies to health-service programs and practice.

CC 564.2 Occupational & Physical Therapy Interventions: Evidence-based Practice Analysis (2 credits – WebStudy)
Contemporary clinical practice patterns are heavily influenced by emerging evidence on the effectiveness of frequently used treatment interventions. This course empowers students to develop focused clinical questions pertinent to their individual clinical practice and utilize the most effective online search strategies of relevant medical databases. Students will learn to quickly and efficiently identify articles most likely to answer their clinical questions while implementing a practical and systematic process for critically evaluating professional journal articles. Ultimately, students obtain the essential tools to improve their confidence in selecting the most effective evidence-based interventions for individual patients.

CC 601 Transformational Leadership (1 credit – WebStudy)
This course examines current research and practices of transformational leadership skills and behavior. The influence of emerging technologies, shifting accountabilities between providers and consumers, and changing healthcare practices will be examined in relation to evolving leadership principles and characteristics for the 21st Century. Tools of evidence-based management will be analyzed for their contribution
to developing leadership. Issues of change, creativity and innovation, interprofessional collaboration and leadership/healthcare delivery models are addressed. Self-reflection, self-mastery, professional integrity, credibility and other leadership-related concepts are themes that underpin the course.

CC 637  Case Report Methodology  (1 credit)
This course will progress the clinical practitioner’s knowledge of advanced case report/series methodology, both as a consumer and producer of evidence. A combination of lecture and practical exercises will include effective use of summary techniques and ranking of reports in the evidence hierarchy. The goal is to prepare the student to efficiently report his/her own clinical work in conjunction with TDPT 508 (Directed Independent Study 1) and TDPT 528.2 (Capstone Project).

Elective Track Courses

AG 529  Capstone Project  (4 credits – WebStudy)
Each doctoral student will be required to complete a capstone project that reflects evidence-based practice and highlights the unique approach of an occupational therapy practice scholar. The project itself demonstrates synthesis and integration of student-selected learning outcomes and reflects exceptional performance capabilities or superior effort. It represents a logical progression of critical reasoning obtained from the portfolio development project in OTD 509. The final project will qualify for professional presentation and students will submit their project to the instructor in the form of a professional poster that includes process, outcomes, and implications for further development. Prerequisites: AG 550, CC 507.2, CC 527, CC 533.2, CC 564.2, OTD 504, OTD 505, OTD 509, OTD 511 or P 603, OTD 512.

AG 551  Aging: Neurodegenerative Diseases  (1 credit)
This course will present typical changes occurring in the aging nervous system. This will include normal changes as well as deviations from normal as they relate to function and behavior. The pathology and management of Alzheimer’s disease, Parkinson’s disease, and other disorders relevant to the older adult will be discussed. Pharmaceutical management will be included, which will be complementary to the pharmacology course (CC 510.2). The course will include case study, lecture and discussion. Prerequisite: AG 550.

AG 552  Exercise Interventions for Aging Adults  (1 credit)
This course is an inquiry into physiological capacity of older adults with particular emphasis on the role of exercise as a life prolonging intervention. Focus is on the best available evidence to maintain vitality and mobility in aging adults facing problems of the cardiopulmonary, musculoskeletal and nervous systems. Interventions related to aerobic & anaerobic fitness as well as strength training, flexibility and balance will be emphasized. Prerequisite: AG 550.

AM 529  Capstone Project  (4 credits – WebStudy)
Each doctoral student will be required to complete a capstone project that reflects evidence-based practice and highlights the unique approach of an occupational therapy practice scholar. The project itself demonstrates synthesis and integration of student-selected learning outcomes and reflects exceptional performance capabilities or superior effort. It represents a logical progression of critical reasoning
obtained from the portfolio development project in OTD 509. The final project will qualify for professional presentation and students will submit their project to the instructor in the form of a professional poster that includes process, outcomes, and implications for further development. **Prerequisites:** CC 507.2, CC 527, CC 533.2, CC 564.2, OTD 504, OTD 505, OTD 509, OTD 511 or P 603, OTD 512.

**AM 550 Organizational Development and Human Resources**
This course is designed to teach practical skills for managing human assets from the perspective of the healthcare administrator. Topics include best practices in recruiting, compensation, employment law, performance evaluation, developing and managing people successfully, and dealing with difficult conversations. Students learn how human assets have the potential to be a source of sustainable competitive advantage in high performance organizations. The course focuses on motivation, communication, decision-making, conflict resolution, and adaptation to change. Theories are applied to human-resource problems and administrative processes in healthcare organizations.

**AM 570 Financial Analysis and Performance**
Students in this course will learn to apply financial concepts to case situations, and will be introduced to concepts used in corporate and small business finance. Participants learn how to read and use financial statements in order to monitor and improve financial and productivity aspects of healthcare organizations. Topics include financial statement analysis, financial math, and forecasting, budgeting, estimation of a firm’s required return, and value-added analysis. Topics are focused on financial strategies from the perspective of practice managers, healthcare administrators, lenders, and investors.

**AM 590 Practice Development and Strategy**
In a competitive healthcare environment, an organization needs a clear strategic planning process, market analysis, quality improvement plan and a solidified business plan. This course introduces basic concepts and managerial tools for improving healthcare operations. Topics such as motivation, power and influence, group behavior and teams, decision-making, conflict and collaboration, organization design, culture, and effective execution of plans are discussed. The course is divided into two distinct parts: strategy and practice management. Students are exposed to concepts and techniques firms use to develop sustainable competitive advantages. This course is designed to help students develop and enhance their managerial skills and effectiveness. Specific learning goals are to sharpen skills in problem definition, to expose students to current practice management and diagnostic models, and to refine the process students use to generate and select action alternatives to improve healthcare operations. Cases, group discussion and team exercises are used extensively in the course. During the course, students fully develop and fine-tune business plans to effectively compete.

**CHT 514.3 Seminar for Certified Hand Therapists**
This seminar will be done in a web-based format. Students will discuss their particular interests, program goals and resources used for learning. Students will have the opportunity to share articles and information on clinicians who have influenced their professional development. Students will begin directed searches of the hand therapy and hand surgery literature and will network with their hand therapy
class colleagues to establish a line of communication for sharing resources. Discussions will serve as a foundation to establish definitive topics for CHT 524.2 (Advanced Concepts in Hand Therapy: Evidence-based Practice), a two-credit course to be offered in Semester 3. Pre- or Co-requisites: CC 507.2, CC 527, CC 564.2.

**MT 518 Advanced Practicum** (2 credits – Weekend Intensive)
Building on MT 551 and 552, this challenging directed independent study course with a single weekend component is structured around extensive laboratory sessions to achieve proficiency in selected manual physical therapy interventions, therapeutic exercise and traction. The lab focuses predominantly on becoming proficient in a core set of manual physical therapy techniques. However, exercise strategies that complement a manual therapy approach are integrated throughout. [Pass/Fail course.] Pre- or co-requisites: MT 551, MT 552.

**MT 528 Advanced Practicum** (1 credit- Weekend Intensive)
Building on MT 553, this challenging directed independent study course with a single weekend component is structured around extensive laboratory sessions to achieve proficiency in selected interventions of the cervical and thoracic spine. The lab focuses predominantly on becoming proficient in a core set of manual physical therapy techniques. However, exercise strategies that complement a manual therapy approach are integrated throughout. [Pass/Fail course.]

**MT 551 Manual Therapy for the Lower Quarter** (3 credits – WebStudy)
This course integrates manual therapy and exercise intervention techniques in the management of individuals with lower extremity disorders. A combination of lecture and lab session (MT 518) will be utilized to facilitate participant learning.

**MT 552 Manual Therapy for the Lumbo-Pelvic Region** (3 credits – WebStudy)
This course integrates manual therapy and exercise intervention techniques in the management of individuals with lumbopelvic disorders. Patients with low back and pelvic/hip pain make up nearly 50% of all patients receiving outpatient physical therapy. Students will acquire skills in clinical examination, evaluation, diagnosis, and manual therapy interventions of the lumbopelvic spine and hip. A treatment based classification approach is described and provides structure to the course. This course uses a combination of lecture and lab session (MT 518) to facilitate participant learning.

**MT 553 Manual Therapy for the Cervical-Thoracic Spine** (3 credits – WebStudy)
This course integrates manual therapy and exercise intervention techniques in the management of individuals with cervical-thoracic disorders. Patients with neck pain make up 20-30% of all patients receiving outpatient physical therapy. Students will acquire skills in clinical examination, evaluation, diagnosis, and selected interventions of the cervical and thoracic spine. A treatment based classification approach is described and provides structure to the course. Prerequisites: CC 507.2, CC 527, TDPT 544.2.

**P 510 Pediatric Pharmacology & Imaging** (1 credit)
In this course, pharmacodynamics and pharmacokinetics of commonly prescribed medications and over-the-counter drugs will be addressed for children receiving physical or occupational therapy. Potential drug complications of adverse effects
and interactions will be reviewed. An overview of brain and musculoskeletal imaging procedures will occur with emphasis on the neonatal brain and common musculoskeletal pathology in children.

**P 529 Advanced Practicum in Pediatrics**  
(4 credits – WebStudy)  
This course will feature an individually designed unique experience or project related to pediatrics and negotiated with the pediatric elective track director. The advanced practicum may be focused on advanced competency training, program development, teaching module design and presentation, or leadership / management project. A paper will be submitted describing the practicum objectives, evidence basis/literature synthesis, design and activities, outcome, and relevance to pediatric practice.  
*Prerequisites: CC 507.2, CC 527.*

**P 544 Pediatric Differential Diagnosis and Medical Screening for Practitioner Referral**  
(1 credit)  
This course is designed to enhance the skill level of physical therapists working with children in conducting selected portions of an examination which include taking a history for the pediatric client, reviewing systems beyond the system(s) typically of concern to therapists, addressing health promotion with children and families, and recognizing signs and symptoms that indicate the need for a referral to another health practitioner. The student is expected to bring knowledge of tests and measures and examination procedures unique to the respective discipline.

**P 603 Measurement in Pediatric Therapy**  
(1 credit – WebStudy)  
This course applies concepts and principles of measurement to pediatric clinical practice including instruments and clinical observation protocols to measure development, sensory and motor performance, functional tasks, quality of life, and sensory processing. Psychometric properties of instruments are analyzed and measurement of clinical change is emphasized.

**P 701.2 Manual Therapy for Functional Mobility in Children with Neuromusculoskeletal Impairments**  
(1 credit)  
In this course, manual therapy techniques are introduced as an adjunct for improving functional mobility in children with joint and tissue restriction. A laboratory component with an adult partner will provide guided practice in using manual therapy and myofascial approaches for later application in examination and intervention plans for children. A video of a child with movement restriction from each student’s caseload (or a colleague’s caseload) will provide the basis for design of examination and intervention plans. [Early Intervention Practice or School-based Practice]

**P 703 Seminar on Children and Youth In Early Intervention and Education Environments**  
(1 credit – WebStudy)  
This course will include discussion and application of laws, practice guidelines, and service delivery models for early intervention and school-based practice settings. Development and use of individualized family service plans and individualized education programs are addressed. Clinical decision-making frameworks are used with peer-reviewed literature to analyze and support selected interventions through case-based presentations.
P 707.3 Management of Oral-motor and Feeding Impairments in Medically Compromised Children
This course addresses the assessment and management of feeding and swallowing disorders in children with neuromuscular and structural deficits; interventions are reviewed to support transitions to oral feeding from supplemental feeding lines. [School-based Practice]

P 713.2 Topics in Clinical & Medical Management of Pediatric Movement Disorders
This course reviews current approaches for spasticity management to include discussion of muscle tone examination, strength, and functional training to support medical and pharmaceutical management of spasticity and “mixed” tone. Pediatric therapy roles in managing tone and movement disorders are analyzed and collaboration with spasticity management teams and parents is addressed. [Early Intervention Practice]

P 721.3 Scientific Writing and Professional Presentations
An overview is provided regarding structure and process of scientific writing for the medical literature including writing mechanics, common problems in medical writing, steps in preparing for publication, and processes for research grant applications. Strategies for professional presentations (poster and platform), international presentations with an interpreter, and media interviews are reviewed.

P 724 Embryology and Fetal Development: Implications for Neonatal Care
This course provides an overview of the development of selected body systems (cardiovascular, gastrointestinal, respiratory, genitourinary, face/neck) and the basis for major anomalies of these systems. Examination of embryologic and fetal development of the central nervous system and sensory systems are included with implications for preterm and other infants in the neonatal intensive care unit and home settings. [Neonatal/Early Intervention Practice]

P 729.3 Topics in Sensory Processing in Children
This course provides an overview of new terminology and a nosology related to Sensory Processing Disorder (SPD) accepted by Interdisciplinary Council for Developmental and Learning Disorders and the Diagnostic Classification: 0-3 will be presented. Linkages between SPD and difficulties with daily life performance will be highlighted. New research findings in SPD discriminating SPD from typically developing children and children with other diagnoses will be presented including psychophysiological and behavioral outcomes. A new model for the treatment of various subtypes of SPD will be discussed based on underlying neurological theory and clinical reasoning. In addition, several assessments for sensory and motor functioning will be briefly presented and their use in theory-based decision making for intervention will be discussed. [School-based Practice]

P 734 Designing Pediatric EBP Frameworks: Development and Implementation of Practice Guidelines in Pediatric Settings
This course focuses on the development and implementation of evidence-based therapy guidelines in pediatric settings. Emphasis is placed on the phases and steps of the complex process used to systematically develop formal practice recommendations for specific pediatric populations. An implementation plan and
organizational dynamics for successful integration of these recommendations will be addressed.
OTD Specialty Courses

OTD 504   Advances in Occupational Therapy Practice   (1 credit)
In this course, students engage in self-reflection and clinical reasoning to examine how they meet the academic and professional competencies required for doctoral level practice. Students critically analyze The Occupational Therapy Practice Framework as a resource for addressing relevant practice concerns. Particular attention is paid to understanding current professional trends including those representing advances in global, national, state, and local organizations. Instructional methods include self-study, lecture review of pertinent material, cooperative learning, and a culminating paper.

OTD 505   Occupational Therapy: Conceptual Foundations   (1 credit)
Occupational science is the study of the meaning of human engagement in occupation. Students will analyze the elements, relationships, and organizational principles of human occupation. Current research in occupational science is examined, including trends in occupation-based theories. Students will identify and analyze occupation-based assessment and intervention tools. Students will demonstrate how occupation is used as the primary modality to design treatment interventions, across a range of practice settings and client profiles.

OTD 509   Professional Development and Evaluation   (3 credits – WebStudy)
This course challenges students to appraise and demonstrate a commitment to becoming practice-scholars through scholarly discourse on practice scholarship and the integration of principles of evidence-based practice in occupational therapy. Students critique literature and research to formulate evidence-based rationales for treatment planning to demonstrate competency in evidence-based practice. Students synthesize key curricular concepts presented during semester one to facilitate the transition towards their individual professional development goal(s).
Prerequisites: CC 507.2, CC 527, CC 564.2, OTD 512.

OTD 511   Evaluation of Occupational Therapy Interventions: Health Policy and Outcomes Research   (1 credit – WebStudy)
This course serves as an introduction to health policy in the United States and the utilization of outcomes research to support policy development. Students differentiate between goal attainment and outcomes research and identify and evaluate measurement instruments used to assess the impact of occupational therapy intervention. Critical analysis of the role of outcome measurements as part of an evidence-based practice model will be undertaken. Case-based learning methodologies are used to allow students to make critical judgments in specific examples.
Prerequisites: CC 507.2, CC 527, CC 564.2.

OTD 512   Occupational Therapy Capstone Seminar 1   (1 credit)
A practice-scholar embeds research in everyday practice to answer central questions and/or provide evidence unique to his/her context of practice. Students explore literature underlying the paradigms of practice-scholarship and clinical competence to evaluate the degree to which they meet criteria for excellence and leadership in their respective areas of practice. Students receive instruction in professional development methods and exercises to guide their development of a reflective portfolio and professional development goal.
OTD 514  Occupational Therapy Capstone Seminar 2  (1 credit)
Using cooperative learning methods, students will present an overview of their professional portfolio in order to gain peer feedback on project planning for their Capstone project. Students are introduced to the basic terminology and constructs of Project Management. Final planning of the capstone project will occur. Students develop and submit a plan for their capstone project that is approved by the graduate program director or designee. Prerequisites: CC 507.2, CC 527, CC 533.2, CC 564.2, OTD 504, OTD 505, OTD 509, OTD 511 or P 603, OTD 512.

OTD 516  Clinical Reasoning: Forms of Inquiry in Advanced Practice  (1 credit)
Basic and advanced topics in clinical reasoning are introduced with an emphasis on Occupational Therapists’ expertise in narrative inquiry and occupational story telling commonly reported by authors in occupational therapy and occupation science literature. Students conduct in-depth analysis and presentation of their clinical reasoning processes and integration of occupation in achieving therapeutic outcomes. Through participation in active learning activities, students demonstrate evidence that supports the central therapeutic processes that comprise occupational therapy practice including the meaning of illness and the impact of family and social and physical contexts. Students learn to differentiate the philosophical constructs relevant to the biomedical and phenomenological aspects of occupational therapy practice and to make judgments about the nature of the good in a particular case. Foundational knowledge from this course is required for the Capstone course. Prerequisites: CC 527, OTD 505.

OTD 518  Designing Evidence-based Practice Frameworks: Development and Implementation of Practice Guidelines  (1 credit)
This course focuses on the development and implementation of evidence-based therapy guidelines across a variety of settings. Emphasis is placed on the phases and steps of the complex process used to systematically develop formal practice recommendations for specific patient/client populations. An implementation plan and organizational dynamics for successful integration of these recommendations will be addressed. Prerequisites: CC 507.2, CC 527, CC 564.2.

OTD 529  Capstone Project  (3 credits – WebStudy)
Each doctoral student will be required to complete a capstone project that reflects evidence-based practice and highlights the unique approach of an occupational therapy practice scholar. The project itself demonstrates synthesis and integration of student-selected learning outcomes and reflects exceptional performance capabilities or superior effort. It represents a logical progression of critical reasoning obtained from the portfolio development project in OTD 509. The final project will qualify for professional presentation and students will submit their project to the instructor in the form of a professional poster that includes process, outcomes, and implications for further development. Prerequisites: CC 507.2, CC 527, CC 533.2, CC 564.2, OTD 504, OTD 505, OTD 509, OTD 511 or P 603, OTD 512, OTD 514 (or co-requisite). For Hand Therapy Elective Track, CHT 524.2 is also a prerequisite.

OTD 545  Legal and Ethical Issues in Occupational Therapy  (1 credit)
This course overviews important legal and professional ethical issues impacting the professional domain of occupational therapists. Topics include, among others, the legal environment, healthcare malpractice (with emphasis on its prevention), informed consent and ethical decision-making. The course highlights effective
approaches and strategies for identifying, managing and reducing the risk of legal
and professional ethical problems, issues and dilemmas in occupational therapy
practice at the individual, organizational, and systems levels.

TDPT Specialty Courses

TDPT 503  Foundational and Clinical Sciences  (1 credit – WebStudy)
This course will examine the foundational sciences related to normal and abnormal
structure, function, and response to injury and disease to enhance physical therapy
outcomes.

TDPT 508  Directed Independent Study  (4 credits – WebStudy)
This progressive directed independent study project provides each student with an
individually tailored opportunity for an evidence-based reflective analysis of patient
care. Using the evidence-based skills and competencies gained from all courses in
the first semester, this project allows the experienced physical therapist to carefully
analyze care administered for a selected patient in relation to current best evidence.
Prerequisites: CC 507.2, CC 527, CC 564.2, CC 637, TDPT 544.2 (or TDPT 544.3).

TDPT 513  Clinical Exercise Physiology  (1 credit)
This course will increase the experienced clinician’s understanding of the latest
concepts in clinical exercise physiology, as well as the relationship between fitness
and wellness. Evidence-based physiological principles underlying the human
response to exercise are discussed as they relate to the healthy adult. Some
examples are provided regarding how these principles may be affected in the adult
with diabetes and cardiovascular disease. Planning, implementation, and evaluation
of various tests are presented primarily in an interactive lecture format.

TDPT 528.2  Capstone Project  (4 credits – WebStudy)
This challenging directed independent study project allows each student to apply
advanced skills in evidence-based medicine to his or her own clinical practice. A
diagnostic category of patient is selected by the student for a case series. Physical
therapy care is then administered for three consecutive patients with that diagnosis
according to best evidence. The care administered in the case series is documented
in the format of a suitable journal. Students not in clinical practice will be provided the
opportunity to complete other evidence-based projects similar in complexity as
negotiated with the Graduate Program Director. Prerequisites: CC 507.2, CC 527,
CC 564.2, TDPT 508, TDPT 544.2 (or TDPT 544.3).

TDPT 544.2  Evidence-based Differential Diagnosis & Screening in
Physical Therapist Practice  (2 credits)
This course discusses advanced concepts of evidence-based diagnosis as related to
physical therapist practice. Participants will learn diagnosis and screening strategies
suitable for a wide spectrum of practice situations. A combination of lecture and
interactive case-based examples helps to establish a diagnostic framework that
facilitates diagnostic accuracy and successful clinical outcomes.

TDPT 544.3  Evidence-based Differential Diagnosis & Screening in
Physical Therapist Practice  (1 credit)
This course discusses advanced concepts of evidence-based diagnosis as related to
physical therapist practice. Participants will learn diagnosis and screening strategies
suitable for a wide spectrum of practice situations. A combination of lecture and interactive case-based examples helps to establish a diagnostic framework that facilitates diagnostic accuracy and successful clinical outcomes.

TDPT 571  Professionalism in Physical Therapy  
(1 credit - WebStudy)

The elements of a doctoring profession include professionalism, or a systematic and integrated set of core values that through assessment, critical reflection, and change, guides the judgment, decisions, behaviors, and attitudes of the physical therapist, in relation to patients/clients, other professionals, the public, and the profession. The core values adopted by the profession of physical therapy will be explored in this course, including the value of professional duty, the commitment to meeting one’s obligations to provide effective care to individual patients/clients, to serve the profession, and to positively influence the health of society. Strategies for developing increased understanding and demonstration of behaviors that illustrate the core values will be developed.
Entry-level Doctorate Programs

Doctor of Physical Therapy

**PT 525  Evidence-based Practice 1**  
This is the first in a four-course sequence in evidence-based practice that provides students with the foundational knowledge and skills necessary to conscientiously, explicitly, and judiciously use current best evidence in making clinical decisions. This course builds on the information from the critical inquiry series. The course focuses on the components of evidence-based practice, formulating answerable clinical questions, and accessing and evaluating professional information as presented in journal articles, abstracts, internet sites, and textbooks. (Lecture 2)

**PT 527  Current Concepts in Rehabilitation**  
This course focuses on current and evidence-based concepts in rehabilitation, including motor control, motor learning, medical monitoring, strengthening, stretching, motor control, spasticity, and functional retraining. Outcome assessment tools for the individual and for groups of patients/clients are analyzed. (Lecture 2)

**PT 533  Cardiopulmonary Physical Therapy and Exercise Science**  
This course will prepare the student to effectively manage patients with cardiovascular and/or pulmonary impairments and disability. Emphasis is placed on the elements of patient client management in physical therapy practice, including screening, examination, evaluation, diagnosis, prognosis, development of a plan of care, intervention, and outcomes assessment and evaluation. Concepts of exercise physiology and practical application in physical therapy are addressed. (Lecture 2/Lab 2)

**PT 534  Musculoskeletal Physical Therapy 1**  
The first of two courses in this series, this course prepares the student to practice entry-level physical therapy relative to the management of musculoskeletal conditions. Information related to common orthopaedic conditions and diagnoses is presented. This course will concentrate on the lower extremities and the spine. Information regarding evidence-based approaches in critical thinking and application of psychomotor skills related to examination, evaluation, diagnosis, prognosis, intervention, and outcomes assessment is emphasized. A primer on differential diagnosis and evaluation tools is presented to help students recognize problems that are beyond the physical therapy scope of practice and when/how to refer appropriately within the healthcare community. (Lecture 4/Lab 2)

**PT 541  Foundation Sciences 5: Neuroscience**  
This course includes the study of human neuroanatomy and neurophysiology, with emphasis on the relationship between structure, function, and control of the human nervous system in normal and diseased states. (Lecture 5)

**PT 700  Physical Therapy and Professionalism**  
An overview of the healthcare delivery system and of the professional roles of practicing physical therapists is presented. Students evaluate the interdisciplinary roles of medical and rehabilitation co-professionals and extenders, including, among others, medical doctors, nurses, physical, occupational and speech therapists,
chiropractors, social workers, and physical therapist assistants. The history and development of modern-day physical therapy in the United States is examined in depth and includes the study of the collaborative nature of twenty first century healthcare practice. (Lecture 3)

PT 701  Foundational Sciences 1: Human Anatomy  (5 credits)
The study of human anatomical structures as they relate to movement and the physiological demands of activity and exercise. A regional approach to the study of structures is aided by specimens, models, and videotapes. The course is projected to have a strong interactive, online component. (Lecture 5)

PT 704  Intervention 1: Physical Therapy Procedures  (3 credits)
The first in a series of clinical skill courses; this introductory course focuses on basic principles and the development of psychomotor skills related to palpation, infection control, vital signs, clinical emergencies, body mechanics, positioning and draping, therapeutic massage, basic wheelchair prescription, transfers, bed mobility, and gait training of patients and clients. In addition, it introduces the student to the American Physical Therapy Association’s Guide approach to physical therapy practice and documentation. (Lecture 2/Lab 2)

PT 705  Critical Inquiry 1: Introduction to Research Methods  (2 credits)
This course will present an introduction to general research principles and research ethics. The student will be introduced to the following topics in the research process: question formulation, principles of measurement, basic research design and methodological features, issues of reliability and validity, and fundamentals of conducting a literature review. This course will also serve as an introduction to evidence-based practice. Quantitative article critiques will be conducted in class and outside of class. This course will provide the student with the necessary background to formulate a hypothesis-driven, research prospectus. (Lecture 2)

PT 707  Physical Therapy Evaluation  (2 credits)
This course will cover the elements of patient/client management with a focus on components of an examination and the development of the evaluation/diagnosis/prognosis process. Laboratory sessions emphasize examination skills with refinement of psychomotor skills learned during the first semester. The evaluative process will utilize the International Classification of Functioning and Disability (ICF) as the primary process for making a diagnosis and developing the prognosis/plan of care. The course also includes: introduction to documentation, history taking, examination tests and measures, outcome tools, and outcome assessments. (Lecture 1/Lab 2)

PT 710  Ethics in Physical Therapy Practice  (2 credits)
This course provides a comprehensive overview of physical therapy ethics. Students define and distinguish moral, ethical and legal duties in practice, analyze the APTA’s core values, Code of Ethics and Guide for Professional Conduct, and compare and contrast professional association ethical standards and state licensing board ethical standards. The four foundational biomedical ethical principles of beneficence, non-maleficence, autonomy and justice are examined and applied to practice. (Lecture 3)
PT 711  Foundational Sciences 2: Kinesiology/Pathomechanics 1  (4 credits)
This course will examine the study of human movement including selected anatomical, structural, and functional properties of human connective tissues, muscular tissues, nervous tissues, and skeletal structures. Focus will be on the lower quarter. Emphasis will be placed on mechanical, neuroregulatory, and muscular influences upon normal and pathological motion. (Lecture 3/Lab 2)

PT 712  Evidence-based Concepts of Musculoskeletal Imaging  (1 credit)
This course presents the latest concepts in musculoskeletal imaging as related to evidence-based diagnosis in physical therapy practice. Methods of image acquisition and the appearance of normal anatomy and pathology are presented for a spectrum of musculoskeletal imaging modalities. Clinical application and case examples of the imaging procedures are presented. (Lecture 1)

PT 714  Intervention 2: Physical Agents  (2 credits)
The second in the intervention series, this course focuses on the theory and physiological effects of selected physical agents/modalities, including indications and contraindications relevant to specific conditions. Biophysical Technologies include heat, cold, electrical current, light, sound, and other electromagnetic spectrum modalities, as well as intermittent compression and traction. In addition, the American Physical Therapy Association’s Guide will be reviewed relative to physical therapy modality practice. (Lecture 1/Lab 2)

PT 715  Critical Inquiry 2: Biostatistics  (2 credits)
The purpose of this course is to introduce the student to biostatistics, the science of evaluating information in a biological setting. This course will cover such topics as simple descriptive statistics, basic probability concepts, probability distributions (normal & binomial), sampling distributions, interval estimation, confidence intervals, hypothesis tests, and one and two-sample t-tests. (Lecture 2)

PT 716  Pharmacotherapy
This course will introduce basic pharmacological concepts such as pharmaco-therapeutics, dynamics, and kinetics and their application to physical therapy practice. The impact of prescribed and over the counter (OTC) drugs on the outcome of therapy interventions will be explored. The course also emphasizes current evidence regarding medication/drugs and their relation to physical therapy practice. (Lecture 2)

PT 720  The Socio-cultural Aspects of Human Interaction  (3 credits)
General principles of human interaction, communication, and relationships are presented, including self, professional-patient, and interdisciplinary strategies for understanding adaptations to disease and disability. The development of skills to prepare students to be culturally competent in physical therapy practice is emphasized. (Lecture 3)

PT 721  Foundational Sciences 3: Physiology/Histology  (5 credits)
A clinical approach to physiological systems most relevant to the practice of physical therapy. Content relates to the normal and abnormal muscle and nerve physiological function, growth and repair of bone and soft tissue, cardiopulmonary system functions, nutrition and digestion, endocrine regulation of metabolism, homeostasis and kidney function. Content includes the microscopic and submicroscopic structure
of mammalian tissue. The course is projected to have a strong interactive, online component. (Lecture 5)

PT 724 Intervention 3: Therapeutic Exercise  
(2 credits)  
The third course in the intervention series, this course is designed to provide students with an overview of basic principles related to exercise, including acute and chronic physiologic adaptation to aerobic and anaerobic exercise. The impact of various disease states on exercise capacity will also be explored. In addition, the application of therapeutic exercise prescription and medical documentation will be emphasized as related to pathologic conditions commonly seen in physical therapy practice. (Lecture 1/Lab 2)

PT 725 Evidence-based Practice 1  
(2 credits)  
This is the first in a four-course sequence in evidence-based practice that provides students with the foundational knowledge and skills necessary to conscientiously, explicitly, and judiciously use current best evidence in making clinical decisions. This course builds on the information from the critical inquiry series. The course focuses on the components of evidence-based practice, formulating answerable clinical questions, and accessing and evaluating professional information as presented in journal articles, abstracts, internet sites, and textbooks. (Lecture 2)

PT 726 Physical Therapy and the Integument  
(2 credits)  
This course focuses on the care of the integumentary system, including burns, wounds, and decubitus ulcers, and underlying diseases which can lead to these conditions. Special attention is given to the care of individuals with insensitive limbs, and other comorbidities. (Lecture 1/Lab 2)

PT 727 Current Concepts in Rehabilitation  
(2 credits)  
This course focuses on current and evidence-based concepts in rehabilitation, including motor control, motor learning, medical monitoring, strengthening, stretching, motor control, spasticity, and functional retraining. Outcome assessment tools for the individual and for groups of patients/clients are analyzed. (Lecture 2)

PT 730 Introduction to Health Promotion and Wellness  
(2 credits)  
This course will provide an overview of the concepts of health promotion, health education, public health, primary prevention, lifestyle, behavior, and wellness and, based on evidence, their relationships to each other and to secondary and tertiary care. The historical relevance of and evidence for focusing on individual and social determinants of health will be explored and an ecological model combining both approaches will be introduced. Typical intervention sites for effective health promotion programs will be discussed as well as a framework for implementing programs. (Lecture 2)

PT 731 Foundational Sciences 4: Kinesiology/Pathomechanics 2  
(4 credits)  
This course is a continuation of Kinesiology/Pathomechanics 1, and includes the study of human movement, including selected anatomical, structural, and functional properties of human connective tissues, muscular tissues, nervous tissues, and skeletal structures. Focus is on the upper quarter and spine. Emphasis will be placed on mechanical, neuroregulatory, and muscular influences upon normal and pathological motion. (Lecture 3/Lab 2)
PT 733  Cardiopulmonary Physical Therapy and Exercise Science  (3 credits)
This course will prepare the student to effectively manage patients with cardiovascular and/or pulmonary impairments and disability. Emphasis is placed on the elements of patient client management in physical therapy practice, including screening, examination, evaluation, diagnosis, prognosis, development of a plan of care, intervention, and outcomes assessment and evaluation. Concepts of exercise physiology and practical application in physical therapy are addressed. (Lecture 2/Lab 2)

PT 734  Musculoskeletal Physical Therapy 1  (5 credits)
The first of two courses in this series, this course prepares the student to practice entry-level physical therapy relative to the management of musculoskeletal conditions. Information related to common orthopaedic conditions and diagnoses is presented. This course will concentrate on the lower extremities and the spine. Information regarding evidence-based approaches in critical thinking and application of psychomotor skills related to examination, evaluation, diagnosis, prognosis, intervention, and outcomes assessment is emphasized. A primer on differential diagnosis and evaluation tools is presented to help students recognize problems that are beyond the physical therapy scope of practice and when/how to refer appropriately within the healthcare community. (Lecture 4/Lab 2)

PT 735  Evidence-based Practice 2  (2 credits)
The second in a four course series, this course builds on all previous course work in EBP and is designed to prepare physical therapy students with the knowledge, skills and abilities necessary to make independent judgments about the validity of clinical research and to implement evidence-based clinical practice in their clinical rotations. This course will focus on the concepts of evidence-based practice, with emphasis on forming answerable clinical questions and effective literature search strategies. The evaluative approach to appraising the research literature will prepare the students to judge the evidence on: 1) the accuracy and validity of diagnostic tests and the application of important diagnostic tests in the care of a specific patient; 2) the effectiveness of clinical interventions; 3) the natural history of health-related conditions; 4) risk of harm from select preventative and therapeutic interventions. Based on presentation of case scenarios, students will be able to formulate the key question(s), rapidly search medical and health-related databases, appraise the evidence with a critical analysis and describe application of the evidence in a clinical context. (Lecture 2)

PT 736  Prosthetics, Orthotics and Amputee Training  (2 credits)
This course focuses on care of the patient who has had an amputation or condition that requires external support, including care related to underlying conditions and comorbidities. Topics such as care of residual limb, prosthetics and orthotics, and associated care and training will be discussed. (Lecture 2)

PT 738  Physical Therapy Experience (8 weeks)  (8 credits)
The first of four clinical education courses, this course is designed to facilitate socialization of DPT students to the clinical environment and to apply knowledge and basic skills developed up to this point in the curriculum in a real world setting. Students will participate in direct patient care while being instructed and supervised by clinical faculty members. Student activities may include, but are not limited to,
patient examination, patient treatment, patient and family education, article presentations, and aspects of patient care. (Clinical Experience)

PT 738.2 Physical Therapy Experience (6 weeks) (6 credits)
The first of four clinical education courses, this course is designed to facilitate socialization of DPT students to the clinical environment and to apply knowledge and basic skills developed up to this point in the curriculum in a real world setting. Students will participate in direct patient care while being instructed and supervised by clinical faculty members. Student activities may include, but are not limited to, patient examination, patient treatment, patient and family education, article presentations, and aspects of patient care. (Clinical Experience)

PT 740 Management Sciences in Physical Therapy (3 credits)
This course examines current issues and trends in physical therapy clinical management. Specific topics include: (1) healthcare malpractice and business, contract, criminal, and education law concepts and case, statutory and regulatory law; (2) informed consent; (3) organizational theory, behavior, and culture; (4) leadership and management principles; (5) human resource management issues; (6) healthcare finance; (7) marketing of PT professional services; and (8) information, quality, and risk management. (Lecture 3)

PT 741 Foundation Sciences 5: Neuroscience (5 credits)
This course includes the study of human neuroanatomy and neurophysiology, with emphasis on the relationship between structure, function, and control of the human nervous system in normal and diseased states. (Lecture 5)

PT 744 Musculoskeletal Physical Therapy 2 (5 credits)
The second of two courses in this series, this course prepares the student to practice entry-level physical therapy relative to the management of the musculoskeletal conditions. This course will concentrate on the upper extremities, trunk and the cervical spine. Information related to common orthopaedic conditions and diagnoses is presented. Information regarding an evidence-based approach in critical thinking and application of psychomotor skills related to examination, evaluation, diagnosis, prognosis, intervention, and outcomes assessment is emphasized. A primer on differential diagnosis and evaluation tools is presented to help students recognize problems that are beyond the physical therapy scope of practice and how/when to refer appropriately within the healthcare community. (Lecture 4/Lab 2)

PT 745 Evidence-based Practice 3 (1 credit)
This is a web-based course performed in conjunction with the clinical internship. The student will be expected to formulate a clinical question based on a patient case or cases seen on the clinical rotation. The student will submit a Critical Appraisal of Topic (CAT) demonstrating the application of EBP principles related to the care of an individual patient. (Lecture 1)

PT 746 Differential Diagnosis/Physical Assessment (2 credits)
This course builds on examination, evaluation, and screening knowledge and skills introduced in previous courses focusing on differential diagnosis/physical assessment as it applies to physical therapy. This course covers concepts of probability-based differential diagnosis and presents the evidence for diagnosis using properties of diagnostic tests such as sensitivity, specificity, likelihood ratios, and
predictive values. Pathology of the major body systems and regions will be covered with current evidence-based practice diagnostic standards as they are available in the professional literature. (Lecture 2)

**PT 754  Neuromuscular Physical Therapy**  
(5 credits)
The first of two courses in this series, this course prepares the future physical therapist to effectively manage patients with neuromuscular dysfunction. Students will apply the elements of patient/client management in physical therapy practice, including, screening, examination, evaluation, diagnosis, prognosis, plan of care, intervention, and outcomes assessment to the patient with neuromuscular dysfunction. The emphasis in this first course will be on the pediatric patients developing toward adulthood. The course will include introductory training in electroneuromyography and nerve conduction velocity testing. Emphasis will be placed on the role of the physical therapist as a Movement Scientist with integration of evidence-based approaches, critical thinking, and clinical reasoning skills. Students will learn to identify underlying impairments, limitations, or restrictions consistent with the international classification of functioning, disability, and health that affect the function and quality of life for a variety of patients across the lifespan. (Lecture 4/Lab 2)

**PT 755  Evidence-based Practice 4**  
(2 credits)
This is a web-based course performed in conjunction with the clinical internship. The student will be expected to formulate a clinical question based on a patient case or cases seen on the clinical rotation. The student will submit a Critical Appraisal of Topic (CAT) demonstrating the application of EBP principles related to the care of an individual patient. At the conclusion of the final clinical rotation the students will present their CAT's to their peers in a concise professional manner. (Lecture 2)

**PT 764  Neuromuscular Physical Therapy 2**  
(5 credits)
The second of two courses in this series, this course prepares the future physical therapist to effectively manage patients with neuromuscular dysfunction. Students will incorporate and build upon concepts and skills developed in the first course. Students will learn to effectively manage adult patients with specific neurological diagnoses. Emphasis will be placed using an evidence-based approach to developing knowledge and skills in managing a variety of common conditions, including spinal cord injury, cerebrovascular accident, vestibular dysfunction, traumatic brain injury, and multi-system neurologic conditions. The effects of aging and Geriatric neurological conditions will also be considered. (Lecture 4/Lab 2)

**PT 774  Research (Optional)**  
(2 credits)
The conduct of scientific inquiry requires careful planning and forethought to assure that the eventual implementation of a study that will successfully result in interpretable and meaningful measurements and that valid conclusions may be drawn. This course will provide students with the necessary background and experience to formulate a clearly delineated, hypothesis-driven or question-related research proposal that can be used to convince funding agencies and/or doctoral committees to support the study. In addition, this course will provide key information about the Institutional Review Board process so that the student will be able to assure a safe and ethical environment for their volunteer subjects. (Lecture 2)
PT 788  **Clinical Internship 1 (15 weeks)**  
(11 credits)
The second of four clinical education courses, this course is designed to incorporate knowledge and skills obtained and enhanced during the first short term clinical experience and synthesize information and skills developed in the final didactic portion of the curriculum. Students will participate in direct patient care while being instructed and supervised by clinical faculty members. Student activities may include, but are not limited to, patient examination, patient treatment, patient and family education, article presentations, and all aspects of patient care and most aspects of patient/client management. It is anticipated that the student PT should be able to carry a caseload and work independently (with appropriate supervision) with most simple and many complex patient types by the end of this clinical experience. (Clinical Experience)

PT 798  **Clinical Internship 2 (15 weeks)**  
(11 credits)
The third of four clinical education courses, this course is designed to incorporate knowledge and skills obtained and enhanced during the first two clinical experiences and synthesize/appraise information and skills developed in the final didactic portion of the curriculum. Students will participate in direct patient care while being instructed and supervised by clinical faculty members. Student activities may include, but are not limited to, patient examination, patient treatment, patient and family education, article presentations, and all aspects of the patient/client management model appropriate to the setting. It is anticipated that the student PT will be able to demonstrate entry-level performance by the end of this clinical experience, for the particular setting in which the student is assigned. (Clinical Experience)

PT 799  **Clinical Internship 3 (15 weeks)**  
(15 credits)
This final clinical education course is designed to incorporate knowledge and skills obtained and enhanced during the first three clinical experiences and synthesize/appraise information and skills developed in the final didactic portion of the curriculum. Students will participate in direct patient care while being instructed and supervised by clinical faculty members. Student activities may include, but are not limited to, patient examination, patient treatment, patient and family education, article presentations, and all aspects of the patient/client management model appropriate to the setting. It is anticipated that the student PT will be able to demonstrate entry-level performance by the end of this clinical experience, for the particular setting in which the student is assigned. (Clinical Experience)