

DAT Course Descriptions

AT 606 Professional and Post-Professional Education in Athletic Training (3 cr)

This course is designed to introduce historical background of professional and post-professional education for health care professions. Theoretical foundations and models of health care education will be compared and contrasted. The impact of educational models to health care will be explored. Development of criteria to govern the practicing professional in their chosen residency will be accomplished.

Prereq: Permission

Learning Outcomes

- The student will demonstrate understanding of the relationship between various stakeholders, theories, and educational models utilized in medical education within the context of professional and post professional education.
- The student will define and describe the interrelationships between discrete aspects of post-professional practice and demonstrate ability to interpret and apply measurement outcomes to improve patient care and delivery of health care services.
 - Patient centered care
 - Evidence based practice
 - Quality improvement
 - Use of health care informatics
 - Professionalism
 - Interdisciplinary collaboration
- The student will utilize theoretical and applied models of health care delivery management to describe barriers to improving professional practice and develop strategies to overcome these barriers.
- The student will integrate theoretical and applied knowledge of process dynamics to conceptualize and test measured outcomes using evidenced-based medical practices to improve the delivery of health care services.

AT 610 Seminar in Athletic Training I (3 cr)

Selected readings from peer reviewed articles will be examined and discussed. Translation of research findings to current clinical practice will be emphasized.

Prereq: Permission

Learning Outcomes

- The student will analyze and assimilate knowledge gained from objective scientific research presented by the United States Burden of Musculoskeletal Disease Research Consortium.
- The student will demonstrate competence in utilizing the Institute of Medicine's Evidence Based Medicine Guidelines with the objective to integrate current research into practice for various patient populations and clinical presentations.
- The student will gain knowledge of statistical modeling and empirical techniques such that they can interpret the results and impact of RCT's (Randomized Controlled Trials) and Meta Analyses, and forest plots to apply research results of clinical significance to practice settings with the objective to improve the quality of patient care.
- The student will interpret data demonstrating a thorough understanding of sensitivity, specificity, reliability, validity to interpret the results of literature that supports evidence based practice.
- The student will describe the import of integrating translational health research into professional practice and understand the interdisciplinary role athletic training clinicians hold in translational research.
- The student will assimilate translational research in context of their accumulated knowledge within their chosen area of specialization (e.g. geriatrics, industrial corporate sports medicine).

AT 611 Seminar in Athletic Training II (3 cr)

Selected readings from peer reviewed articles will be examined and discussed. Translation of research findings to current clinical practice will be emphasized.

Prereq: Permission

- Students will expand upon concepts learned in Seminar AT I with greater depth and breadth, gaining new insight to professional practiced by reflecting on their first year experiences within the DAT.
- Students will gain expertise on a discrete topic of clinical interest and prepare a professional presentation.
- Students will demonstrate ability to apply translational research concepts by either utilizing bench research and translating it to clinical practice or identifying a common clinical practice and designing a randomized controlled trial to test the efficacy of the clinical practice (emphasis on design, not data collection).
- Students will identify obstacles to quality translational research in the health professions and will devise methods to overcome those obstacles with their translational design project.

AT 620 Clinical Research in Athletic Training I (3 cr)

This course introduces common research performed in Athletic Training. Development of in-depth understanding in areas and types of research underlying quantitative research design will be explored. Introduction to critiquing literature for the purpose of developing a theoretical framework will be included.

Prereq: Permission

- Students will discriminate between types of research and levels of evidence and describe the distinct features that define them.
- Students will demonstrate competence in understanding and completing the process of research topic selection.
- Students will demonstrate ability to systematically review the professional literature on an approved topic, utilize strategies for analysis, and write a professional literature review.
- The student will articulate the research process and synthesize this knowledge by formulating a research methodology to investigate their approved topic.
- The student will understand and employ research design principles to critically examine their proposed research and refine the design.
- Students will recognize and evaluate common instrumentation and quantitative measures utilized in athletic training.
- Students will recognize the salient characteristics of various types of research (basic, applied, cohort, multi center, survey, epidemiological).

AT 621 Clinical Research in Athletic Training II (3 cr)

This course introduces Statistical methods employed in clinical research. Topics including statistical terminology, measures of central tendency, Hypothesis testing and common parametric tests will be the content for the course.

Prereq: Permission

- The student will describe the concept and purpose of hypothesis testing and demonstrate ability to formulate a hypothesis for their study.
- The student will calculate statistical output, power, and statistical measures with understanding of how to interpret clinical and statistical significance.
- The student will describe the application and methods to perform analyses of variance, repeated measure designs, and correlation analyses.

AT 622 Clinical Research in Athletic Training III (3 cr)

This course applies statistical methods to common measures in clinical research and introduces survey research and other qualitative measures.

Prereq: Permission

- The student will apply sound statistical principles to analyze objective measures in their professional practice.
- The student will describe concepts relating to qualitative survey research design.

- The student will apply theoretical models of qualitative research design to construct survey items, item stems, and response alternatives.
- The student will apply reliability and validity measures to analyze the robustness of survey responses.
- The student will select appropriate sampling techniques.
- The student will understand rigor, trustworthiness, verite, integrity, validity and how to use these concepts to interpret and design effective qualitative designs.
- The student will demonstrate knowledge of phenomenology, ethnography, grounded theory and be able to appropriately match the qualitative design to the research questions.

AT 623 Clinical Research in Athletic Training IV (3 cr)

This course sets the foundation for action research in clinical practice. Development of a research question and justification with literature review will be employed. Purpose and methods of institutional review will be evaluated. Further discussion will elucidate the importance of becoming a scholarly practitioner.

Prereq: Permission

- The student will describe action research and demonstrate action research into their professional practice.
- The student will describe delimitations and limitations surrounding the use of action research in medical professions.
- The student will formulate strategies to validate their professional action research in clinical practice.
- Students will finalize an action research question, with supporting medical evidence (theory driven) and a thorough literature review.
- Students will describe and defend their methodology for their evidence-based action research.
- Students will submit their research for University IRB approval.

AT 624 Clinical Research in Athletic Training V (3 cr)

This continues the process of action research in clinical practice. Development of methods to test a chosen hypothesis will be created. Exploration of statistical methods to test the clinician's hypothesis will be compared. Data collection will begin.

Prereq: Permission

- The student will evaluate their proposed research methodology and implement a pilot study including statistical analyses, validity, and reliability.
- The student will calculate validity and reliability measures on the chosen clinical instrumentation.
- The student will employ statistical computations on the pilot data collected.
- The student will evaluate their chosen action research hypothesis and methodology including research design and statistical measures.
- Following completion of their pilot study analysis the student will begin formal data collection as approved by the committee and IRB.

AT 625 Clinical Research in Athletic Training VI (3 cr)

This continues the process of action research in clinical practice. Data analysis of the student's research will be performed. Introduction to manuscript writing, dissemination of knowledge in written, oral and poster presentation and a focus on journal review will be the context for this course. Student will successfully present their findings and prepare manuscript in journal ready format.

Prereq: Permission

- The student will finish data collection on their action research project.
- The student will synthesize the data and perform data analysis.
- The student will demonstrate understanding of basic principles of APA and AMA writing styles.
- The student will be able to articulate the process of manuscript writing for professional clinical research journals.
- The student will present their findings to their committee and prepare a manuscript in journal ready format.

AT 630 Current Issues in Clinical Practice I (3 cr)

This course explores current topics in clinical practice that influence quality care and methods of measurement and evaluation for quality assessment. Exploration to common instrumentation utilized by clinicians will be discussed and compared to literature utilizing the instruments for research purposes.

Prereq: Permission

- The student will understand the necessity for appropriate measurements and documentation in their clinical practice.
- The student will describe how these factors influence the quality and effectiveness of health care interventions.
- The student will demonstrate competence in selecting and performing appropriate clinical measures based on goals and current medical knowledge and standards.
- The student will be able to describe, implement, and interpret objective measures of clinical practice that influence patient outcomes and professional advancement.
- The student will be able to implement, and interpret objective measures that are the standard of laboratory research.
- The student will be able to compare and contrast clinical and laboratory clinical measures.

AT 631 Current Issues in Clinical Practice II (3 cr)

This course explores current topics and causes of musculoskeletal injuries to the extremities. An in-depth look at epidemiology, biomechanics and other topics related to musculoskeletal injuries of the extremities will be emphasized.

Prereq: Permission

- The student will understand the mechanics and pathomechanics of normal and diseased tissues.
- The student will identify the etiology of preventable diseases and identify prevention strategies to ease these health care burdens.

AT 632 Current Issues in Clinical Practice III (3 cr)

This course explores current topics of interest areas of practicing professionals. An in-depth look at theory, research, and art of the chosen interest area will be explored. Focus will be in critically analyzing areas such as; anatomy, pathophysiology, biomechanics, theoretical framework or ethical principles to explain the students chosen topic.

Prereq: Permission

- Students will develop their specialty area by integrating their knowledge of anatomy, pathophysiology, and biomechanics to identify issues related to clinical practice.
- Students will identify constraints in their specialty area of clinical practice and identify methods of overcoming these obstacles.
- Students will use ethical principles in their specialty area within the framework of their larger professional role.
- Students will articulate how the science and art of sports medicine influence clinical specialties.

AT 633 Current Issues in Clinical Practice IV (3 cr)

This course explores current topics of interest areas of practicing professionals. An in-depth look at theory, research, and art of the chosen interest area will be explored. Focus will be in critically analyzing areas such as; anatomy, pathophysiology, biomechanics, theoretical framework or ethical principles to explain the students chosen topic.

Prereq: Permission

- Students will discuss emerging health strategies regarding prevention, evaluation, and treatment of musculoskeletal disorders and other preventable diseases.
- Students will use the constructs of anatomy, pathophysiology, biomechanics, theoretical framework, or ethical principles to develop their specialty area.

AT 640 Clinical Residency I (3 cr)

This course is designed to improve the clinical skills of the practicing Athletic Training professional in a mentor guided model. Improvement in a selected area of clinical practice will be measured via formative and summative assessment that employs quantitative measures. Impact of the skill improvement to the organization and profession will be demonstrated.

Prereq: Permission

- The student will demonstrate ability to synthesize prevention and treatment strategies to a clinical problem by utilizing current evidence-based research and integrating this knowledge into clinical practice.
- The student will practice athletic training within their specialty area with professionalism.
- The student will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
- The student will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
- The student will document their progression of clinical competence.

AT 641 Clinical Residency II (3 cr)

This course is designed to improve the clinical skills of the practicing Athletic Training professional in a mentor guided model. Improvement in a selected area of clinical practice will be measured via formative and summative assessment that employs quantitative measures. Impact of the skill improvement to the organization and profession will be demonstrated.

Prereq: Permission

- The student will demonstrate ability to synthesize prevention and treatment strategies to a clinical problem by utilizing current evidence-based research and integrating this knowledge into clinical practice.
- The student will practice athletic training within their specialty area with professionalism.
- The student will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
- The student will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
- The student will document their progression of clinical competence.

AT 642 Clinical Residency III (3 cr)

This course is designed to improve the clinical skills of the practicing Athletic Training professional in a mentor guided model. Improvement in a selected area of clinical practice will be measured via formative and summative assessment that employs quantitative measures. Impact of the skill improvement to the organization and profession will be demonstrated.

Prereq: Permission

- The student will demonstrate ability to synthesize prevention and treatment strategies to a clinical problem by utilizing current evidence-based research and integrating this knowledge into clinical practice.
- The student will practice athletic training within their specialty area with professionalism.
- The student will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
- The student will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
- The student will document their progression of clinical competence.

AT 643 Clinical Residency IV (3 cr)

This course is designed to improve the clinical skills of the practicing Athletic Training professional in a mentor guided model. Improvement in a selected area of clinical practice will be measured via formative and summative assessment that employs quantitative measures to demonstrate improved patient care. Impact of the skill improvement to the organization and profession will be demonstrated. Summary of all impact of clinical residencies will be presented to the participant's organization

Prereq: Permission

- The student will demonstrate ability to synthesize prevention and treatment strategies to a clinical problem by utilizing current evidence-based research and integrating this knowledge into clinical practice.
- The student will practice athletic training within their specialty area with professionalism.
- The student will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
- The student will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
- The student will document their progression of clinical competence from Clinical Residencies I-IV.
- The student will prepare and present a formal report to their specialty practice organization that summarizes their professional growth and how they have impacted quality of care and cost analysis.