

## DAT Curriculum & Course Sequencing

### Summer I

#### *AT 606 Professional and Post-Professional Education in Athletic Training (3 credits)*

- Description: This course is designed to introduce historical background of professional and post-professional education for healthcare 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.
- Objectives:
  - 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.
  - 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, etc.
  - Utilize theoretical and applied models of health care delivery management to describe barriers to improving professional practice and develop strategies to overcome these barriers.
  - 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.
  - Understand and utilize the DAT Working Model

#### *AT 610 Evidence-Based Practice in Athletic Training (3 credits)*

- Description: Selected readings from peer reviewed articles will be examined and discussed. Translation of research findings to current clinical practice will be emphasized.
- Objectives:
  - Students will learn selected manual therapy approaches and techniques.
  - Students will gain knowledge and be able to utilize treatment outcomes in athletic training.
  - Students will interpret data demonstrating a thorough understanding of sensitivity, specificity, reliability, validity to interpret the results of literature that supports evidence-based practice.

- Students 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.
- Students will describe the importance of integrating translational health research into professional practice and understand the interdisciplinary role athletic training clinicians hold in translational research.
- Students will be able to demonstrate understanding of levels of evidence in the health professions.
- Students will be able to understand evidence based practice and the development of evidence based medicine.

*AT 620 Research Methods in Athletic Training (3 credits)*

- Description: 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.
- Objectives:
  - 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.
  - Students will articulate the research process and synthesize this knowledge by formulating a research methodology to investigate their approved topic.
  - Students 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).

**Fall I**

*AT 621 Action Research in Athletic Training (3 credits)*

- Description: 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.
- Objectives:
  - Students will describe action research and demonstrate action research into their professional practice.
  - Students will describe delimitations and limitations surrounding the use of action research in medical professions.
  - Students 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 justification for their evidence-based action research.

*AT 630 Current Issues in Clinical Practice I (3 credits)*

- Description: 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.
- Objectives:
  - Students will produce video presentations of clinical applications, theories, and techniques using supporting evidence from current professional sources.
  - Students will attend online meetings prepared to discuss challenging patient cases/presentations for the purpose of problem solving as a cohort.
  - Students will be prepared to present current challenges to implementing appropriate clinical practice along with potential solutions to these challenges.
  - Students will learn basic statistical concepts and their role in patient care and research design.
    - Quantitative research design
    - Hypothesis testing
    - Power & significance (clinical and statistical)
    - Methods of measurement
    - Measures of central tendency

*AT 640 Clinical Residency I (6 credits)*

- Description: 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.
- Objectives:
  - Students 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.
  - Students will practice athletic training within their specialty area with professionalism.
  - Students will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
  - Students will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
  - Students will document their progression of clinical competence.

## Spring I

### *AT 622 Advanced Action Research in Athletic Training (3 credits)*

- Description: 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.
- Objectives:
  - Students will describe delimitations and limitations surrounding the use of action research in medical professions.
  - Students 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 complete an IRB proposal and will understand the components of research ethics.
  - Students will define the validity and reliability of their action research methods.
  - Students will pilot their action research methods.
  - Students will understand and analyze their pilot data.
  - Students will understand descriptive statistics, qualitative methods, single case design and case studies as a means to accomplish action research.

### *AT 631 Current Issues in Clinical Practice II (3 credits)*

- Description: 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.
- Objectives:
  - Students will understand the mechanics and pathomechanics of normal and diseased tissues.
  - Students will identify the etiology of preventable diseases and identify prevention strategies to ease these healthcare burdens.
  - Students will be able to define, describe and differentiate between different theories of musculoskeletal rehabilitation.
  - Students will explore seminal works in musculoskeletal rehabilitation theories.
  - Students will learn basic statistical concepts and their role in patient care and research design.
    - Measures of variability
    - Normal curve & sampling error

- Parametric and non-parametric statistics
- Correlation, bivariate regression, & multiple regression
- Quantifying reliability

*AT 641 Clinical Residency II (6 credits)*

- Description: 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.
- Objectives:
  - Students 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.
  - Students will practice athletic training within their specialty area with professionalism.
  - Students will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
  - Students will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
  - Students will document their progression of clinical competence.

## Summer II

### *AT 623 Qualitative Methods and Research Design in Athletic Training (3 credits)*

- Description: This course introduces common qualitative methodologies and survey research design in athletic training.
- Objectives:
  - Students will:
    - Be able to describe concepts of qualitative research design
    - Understand five Staples of quality qualitative research design
    - Be able to describe and differentiate between qualitative research paradigms
    - Gain an introduction to survey design
    - Gain competence using qualitative methods to construct survey items (example Delphi technique)
    - Be able to demonstrate survey item analysis
    - Be able to define and describe sampling techniques
    - Be able to apply sampling techniques

### *AT 611 Advanced Evidence-Based Practice in Athletic Training (3 credits)*

- Description: Selected readings from peer reviewed articles will be examined and discussed. Translation of research findings to current clinical practice will be emphasized.
- Objectives:
  - Students will interpret data demonstrating a thorough understanding of sensitivity, specificity, reliability, validity to interpret the results of literature that supports evidence-based practice.
  - Students 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.
  - Students will describe the importance of integrating translational health research into professional practice and understand the interdisciplinary role athletic training clinicians hold in translational research.
  - Students will be able to demonstrate understanding of levels of evidence in the health professions.
  - Students will be able to understand evidence based practice and the development of evidence based medicine.
  - Students will gain knowledge and be able to utilize treatment outcomes in athletic training.
  - Students will learn selected manual therapy approaches and techniques.

- Students will help teach manual therapy approaches and techniques to first year cohort.
- Students will demonstrate learning through patient care simulations or direct patient care.

*AT 607 Leadership and Mentoring in Athletic Training Clinical Practice (3 credits)*

- Description: This course has been designed to initiate leadership and mentoring in AT clinical practice. Topics relating to leadership and mentoring will be discussed.
- Objectives:
  - Students will understand the role of professional engagement in advancing the AT profession
  - Students will understand the Academy and the responsibilities one takes on
  - Students will lead a group project to submit an abstract for presentation at a professional conference
  - Students will submit manuscript to an AT related journal
  - Students will present dissertation proposal to peers
  - Students will ensure that the committee form is complete

**Fall II**

*AT 624 Quantitative Methods and Statistics (3 credits)*

- Description: This course is a continuation of clinical research in athletic training and advances the students understanding of quantitative research methods and statistics utilized in health professions.
- Objectives:
  - Students will learn:
    - Quantitative research design
    - Hypothesis testing
    - Power & significance (clinical and statistical)
    - Methods of measurement
    - Measures of central tendency
    - Measures of variability
    - Normal curve & sampling error
    - Parametric and non-parametric statistics
    - Correlation, bivariate regression, & multiple regression
    - T-tests
    - Analysis of Variance (ANOVA)
    - Repeated measures and statistical tests
    - Multivariate analysis of variance (MANOVA)
    - Organizing and displaying data

*AT 632 Current Issues in Clinical Practice III (3 credits)*

- Description: This course explores current topics and causes of musculoskeletal injuries to the spine and pelvis. An in-depth look at epidemiology, biomechanics and other topics related to musculoskeletal injuries of the lumbar spine and pelvis will be emphasized.
- Objectives:
  - Students will understand the mechanics and pathomechanics of normal and diseased tissues for the spine and pelvis.
  - Students will identify the etiology of preventable diseases and identify prevention strategies to ease these healthcare burdens.
  - Students will be able to define, describe and differentiate between different theories of musculoskeletal rehabilitation for the spine and pelvis.
  - Students will explore seminal works in musculoskeletal rehabilitation theories for the spine and pelvis.
  - Students will explore and understand several of the most common treatment approaches for patients with low back pain.

*AT 642 Clinical Residency III (6 credits)*

- Description: 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.
- Objectives:
  - Students 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.
  - Students will practice athletic training within their specialty area with professionalism.
  - Students will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
  - Students will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
  - Students will document their progression of clinical competence.

## Spring II

### *AT 625 Dissertation of Clinical Practice Improvement: Analysis and Dissemination of Action Research Project (3 credits)*

- Description: This course is a continuation of clinical research in athletic training and is the culmination of the students research methods in action research related to their Doctor of Athletic Training Studies.
- Objectives:
  - Student will submit a Dissertation of Clinical Practice Improvement (DoCPI). The DoCPI incorporates a portfolio of advanced practice, which provides evidence of student achievement in gaining advanced practice expertise in their chosen focus area. Components of the DoCPI include: original applied clinical research manuscript, individual clinical outcomes data, formal reflective practice of patient care (journals), Plan of Advanced Practice (PoAP), faculty/attending clinician (mentor) evaluation, resident self-evaluation, final residency findings, and impact on the residency site. The original applied clinical research project provides students the opportunity to examine their practice within the context of changes they observe in their patients. Research project evaluation criteria include outcomes measures for: patient centered care, evidence-based practice, quality improvement, use of healthcare informatics and, professionalism. These outcomes measures provide quantifiable data for quality professional practices and structure for student's reflective practice journals. The PoAP specifically evaluates evidence-based practice, interdisciplinary collaboration, quality improvement, and professionalism and is dynamically developed throughout the program culminating in the Final Residency Findings report. The PoAP provides structure for an individualized program of study and builds the foundation for the DoCPI.

### *AT 633 Current Issues in Clinical Practice IV (3 credits)*

- Description: 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.
- Objectives:
  - Students will apply knowledge gained from all previous classes and experience to finalize their clinical philosophies.

- Students will be able to discuss patient care and treatment from a variety of paradigms/philosophies and how these paradigms/philosophies impact their clinical practice.
- Students will be able to articulate how to solve real world clinical problems with a structured approach.
- Students will apply knowledge gained in all previous classes and experience in authoring two papers related to Advanced Practice in AT.

*AT 643 Clinical Residency IV (6 credits)*

- Description: 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.
- Objectives:
  - 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.