

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 healthcare education will be compared and contrasted. The impact of educational models to healthcare 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 Advances in Manual Therapy and Practice (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 & Evidence Based Practice in Patient Care (3 credits)

- Description: This course introduces common research performed in patient care. 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 Patient Care (2 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 Holistic Foundations of Pain in Patient Care (2 credits)

- Description: This course explores current topics in clinical practice, related to the foundations of pain in the human body 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 transfer knowledge and theory to discussion and patient care.
 - 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.

AT 634 Introductory Quantitative Data Analysis and Interpretation in Patient Care (2 credits)

- Description: This course introduces quantitative research design, methods of measurement, and introductory data analysis skills for healthcare professionals. The goals are for students to develop an introductory understanding of quantitative design, develop skills to perform basic

data analysis procedures, and begin to develop the skills to interpret findings from quantitative data analysis research projects.

- Objectives:
 - Student will understand the following principles of data analysis and statistics:
 - Quantitative research design
 - Organizing, displaying, and cleaning data
 - Hypothesis testing
 - Power & significance (i.e., clinical and statistical)
 - Methods of measurement
 - Measures of central tendency
 - Measures of variability

AT 640 Clinical Residency and Analysis of Patient Care (6 credits)

- Description: This course is designed to critically assess clinical skills and improve patient care of the practicing healthcare professional in a mentor guided model. Improvement in a selected area(s) 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 Designing and Conducting Applied Research in Patient Care (2 credits)

- Description: This continues the process of applied 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. Dissertation proposal will developed.
- 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 Theory and Application of Current and Novel Paradigms in Patient Care (2 credits)

- Description: Building on foundation of AT 630, this course illustrates the implications of holistic theories of pain by exploring and integrating appropriate novel interventions within efficacious patient care.
- Objectives:
 - Students will produce video presentations of clinical applications, theories, and techniques using supporting evidence from current professional sources.
 - Students will transfer knowledge and theory to discussion and patient care.
 - 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.

AT 635 Intermediate Quantitative Data Analysis and Interpretation in Patient Care (2 credits)

- Description: This course provides an in-depth analysis of quantitative research design and data analysis for health care professionals. The goal is to prepare health care students to apply quantitative research design and data analysis skills in patient care. The goals are for students to develop sound understand of research design and be able to utilize correlational, reliability, and univariate data analysis skills to answer important research questions in patient care. Students will learn to interpret and disseminate their findings to other health care professionals.
- Objectives:
 - Student will understand the following principles of data analysis and statistics:
 - Quantitative research design
 - Organizing and displaying data
 - Normal curve & sampling error
 - Correlation
 - Quantifying reliability
 - t-tests
 - Analysis of Variance (ANOVA)
 - Analysis of Covariance (ANCOVA)
 - Repeated measures and statistical tests
 - Dissemination of data analysis results

AT 641 Clinical Residency and Analysis of Patient Care II (6 credits)

- Description: This course is designed to critically assess clinical skills and improve patient care of the practicing healthcare professional in a mentor guided model. Improvement in a selected area(s) 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 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

AT 611 Integrative Manual Therapy and Practice (3 credits)

- Description: Translation of research findings to current clinical practice will be emphasized. Novel intervention theories, techniques, strategies, will be presented, discussed, practiced as related to patient care and practice based evidence.
- 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 623 Introduction to Survey and Qualitative Research Design in Patient Care (3 credits)

- Description: This course introduces common qualitative methodologies and survey research design in patient care.
- 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 (e.g., Delphi technique)
 - Be able to demonstrate survey item analysis
 - Be able to define and describe sampling techniques
 - Be able to apply sampling techniques

Fall II

AT 624 Advanced Quantitative Data Analysis & Interpretation in Patient Care (3 credits)

- Description: This course provides an in-depth analysis of quantitative research design and data analysis for health care professionals. The goal is to prepare health care students to apply quantitative research design and data analysis skills in patient care. Students will develop sound understanding of research design and be able to utilize regression, factor analysis, and multivariate data analysis skills to answer important research questions in patient care. Students will learn to interpret and disseminate their findings to other health care professionals.
- 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 Integrative Patient Care for the Spine and Pelvic Girdle (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 and Analysis of Patient Care III (6 credits)

- Description: This course is designed to critically assess clinical skills and improve patient care of the practicing healthcare professional in a mentor guided model. Improvement in a selected area(s) 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 Scientific Writing for Publication in Patient Care (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 work to complete 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. 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, practice-based evidence 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

AT 633 Application of Advanced Practice Skills: A Practice-Based Evidence Approach (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 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 and Analysis of Patient Care IV (6 credits)

- Description: This course is designed to critically assess clinical skills and improve patient care of the practicing healthcare professional in a mentor guided model. Improvement in a selected area(s) 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.

- 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.