

# MASTER OF SCIENCE (M.S.) MAJOR IN ATHLETIC TRAINING (THESIS OPTION)

## Degree Program

The Master of Science (M.S.) degree with a major in Athletic Training is designed as an advanced post-professional athletic training curriculum for the board-certified athletic trainer. The graduate student in athletic training may choose from either the thesis or the non-thesis option.

As background prerequisites, an athletic training major is expected to have graduated from an academic institution that is accredited by the Commission on Accreditation of Athletic Training Education (CAATE) or presently be certified through the Board of Certification, Inc.

This program discontinued admissions for the Spring 2020 term and beyond.

## Degree Requirements

The Master of Science (M.S.) degree with a major in Athletic Training requires 34 semester credit hours, including a thesis.

## Course Requirements

Code	Title	Hours
<b>Required Courses</b>		
AT 5308	Therapeutic Exercise & Rehabilitation	3
AT 5310	Proprioception and Neuromuscular Control in Rehabilitation	3
AT 5311	Biomechanics of Musculoskeletal Injury	3
AT 5312	Evidence-Based Practice in Sports Medicine	3
AT 5318	Therapeutic Evaluation and Intervention	3
ESS 5346	Research Methods in Health and Human Performance	3
ESS 5356	Applied Statistics in Health and Human Performance	3
PT 5400	Human Structure and Function	4
<b>Elective</b>		
Choose 3 hours from the following:		3
AT 5307	Bioenergetics of Exercise & Rehabilitation	
ESS 5306	Advanced Exercise Physiology	
ESS 5307	Advanced Resistance Training and Conditioning	
ESS 5311	Applied Neuromuscular and Skeletal Muscle Physiology	
<b>Thesis</b>		
AT 5399A	Thesis	3
Choose a minimum of 3 hours from the following:		3
AT 5199B	Thesis	
AT 5299B	Thesis	
AT 5399B	Thesis	
AT 5599B	Thesis	
AT 5999B	Thesis	
<b>Total Hours</b>		<b>34</b>

## Comprehensive Examination Requirements

All candidates for graduate degrees must pass one or more comprehensive examinations.

If a student elects to follow the thesis option for the degree, a committee to direct the written thesis will be established. The thesis must demonstrate the student's capability for research and independent thought. Preparation of the thesis must be in conformity with the *Graduate College Guide to Preparing and Submitting a Thesis or Dissertation*.

## Thesis Proposal ([http://www.gradcollege.txstate.edu/docs/Thesis\\_Diss\\_Guide.pdf](http://www.gradcollege.txstate.edu/docs/Thesis_Diss_Guide.pdf))

The student must submit an official Thesis Proposal Form (<http://www.gradcollege.txstate.edu/forms.html>) and proposal to his or her thesis committee. Thesis proposals vary by department and discipline. Please see your department for proposal guidelines and requirements. After signing the form and obtaining committee members' signatures, the graduate advisor's signature if required by the program and the department chair's signature, the student must submit the Thesis Proposal Form with one copy of the proposal attached to the dean of The Graduate College for approval before proceeding with research on the thesis. If the thesis research involves human subjects, the student must obtain exemption or approval from the Texas State Institutional Review Board prior to submitting the proposal form to The Graduate College. The IRB approval letter should be included with the proposal form. If the thesis research involves vertebrate animals, the proposal form must include the Texas State IACUC approval code. It is recommended that the thesis proposal form be submitted to the dean of The Graduate College by the end of the student's enrollment in 5399A. Failure to submit the thesis proposal in a timely fashion may result in delayed graduation.

## Thesis Committee

The thesis committee must be composed of a minimum of three approved graduate faculty members.

## Thesis Enrollment and Credit

The completion of a minimum of six hours of thesis enrollment is required. For a student's initial thesis course enrollment, the student will need to register for thesis course number 5399A. After that, the student will enroll in thesis B courses, in each subsequent semester until the thesis is defended with the department and approved by The Graduate College. Preliminary discussions regarding the selection of a topic and assignment to a research supervisor will not require enrollment for the thesis course.

Students must be enrolled in thesis credits if they are receiving supervision and/or are using university resources related to their thesis work. The number of thesis credit hours students enroll in must reflect the amount of work being done on the thesis that semester. It is the responsibility of the committee chair to ensure that students are making adequate progress toward their degree throughout the thesis process. Failure to register for the thesis course during a term in which supervision is received may result in postponement of graduation. After initial enrollment in 5399A, the student will continue to enroll in a thesis B course as long as it takes to complete the thesis. Thesis projects are by

definition original and individualized projects. As such, depending on the topic, methodology, and other factors, some projects may take longer than others to complete. If the thesis requires work beyond the minimum number of thesis credits needed for the degree, the student may enroll in additional thesis credits at the committee chair's discretion. In the rare case when a student has not previously enrolled in thesis and plans to work on and complete the thesis in one term, the student will enroll in both 5399A and 5399B.

The only grades assigned for thesis courses are PR (progress), CR (credit), W (withdrew), and F (failing). If acceptable progress is not being made in a thesis course, the instructor may issue a grade of F. If the student is making acceptable progress, a grade of PR is assigned until the thesis is completed. The minimum number of hours of thesis credit ("CR") will be awarded only after the thesis has been both approved by The Graduate College and released to Alkek Library.

A student who has selected the thesis option must be registered for the thesis course during the term or Summer I (during the summer, the thesis course runs ten weeks for both sessions) in which the degree will be conferred.

## Thesis Deadlines and Approval Process

Thesis deadlines are posted on The Graduate College (<http://www.gradcollege.txstate.edu>) website under "Current Students." The completed thesis must be submitted to the chair of the thesis committee on or before the deadlines listed on The Graduate College website.

The following must be submitted to The Graduate College by the thesis deadline listed on The Graduate College website:

1. The Thesis Submission Approval Form bearing original (wet) and/or electronic signatures of the student and all committee members.
2. One (1) PDF of the thesis in final form, approved by all committee members, uploaded in the online Vireo submission system.

After the dean of The Graduate College approves the thesis, Alkek Library will harvest the document from the Vireo submission system for publishing in the Digital Collections database (according to the student's embargo selection). **NOTE: MFA Creative Writing theses will have a permanent embargo and will never be published to Digital Collections.**

While original (wet) signatures are preferred, there may be situations as determined by the chair of the committee in which obtaining original signatures is inefficient or has the potential to delay the student's progress. In those situations, the following methods of signing are acceptable:

- signing and faxing the form
- signing, scanning, and emailing the form
- notifying the department in an email from their university's or institution's email account that the committee chair can sign the form on their behalf
- electronically signing the form using the university's licensed signature platform.

If this process results in more than one document with signatures, all documents need to be submitted to The Graduate College together.

No copies are required to be submitted to Alkek Library. However, the library will bind copies submitted that the student wants bound for personal use. Personal copies are not required to be printed on archival

quality paper. The student will take the personal copies to Alkek Library and pay the binding fee for personal copies.

Master's level courses in Health and Human Performance: AT

## Courses Offered Athletic Training (AT)

### AT 5101. Graduate Assistant Development.

This course is required of all graduate assistants and provides regular in-service and planned periodic evaluations of instructional responsibilities. Graduate assistants are required to register for this course in the spring semester of their employment. This course does not earn graduate degree credit.

**1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.**

**Course Attribute(s):** Graduate Assistantship|Exclude from Graduate GPA

**Grade Mode:** Leveling/Assistantships

### AT 5191. Capstone I.

This course is a supervised project to analyze outcomes in a defined area of clinical practice. The course includes patient outcomes data collection in a practice-based research environment. Completion of full research sequence is required for graduation.

**1 Credit Hour. 1 Lecture Contact Hour. 2 Lab Contact Hours.**

**Grade Mode:** Standard Letter

### AT 5192. Capstone II.

This course is a continuation of the research sequence that culminates in a supervised project to analyze outcomes in a defined area of clinical practice. The course includes completion of data collection and analysis for an oral presentation and final paper and poster. Completion of this last course is required Prerequisite: AT 5191.

**1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

### AT 5199B. Thesis.

This course represents a student's continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding.

**1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.**

**Grade Mode:** Credit/No Credit

### AT 5201. Graduate Assistant Development.

This course is required of all graduate assistants and provides in-service and planned periodic evaluations of instructional responsibilities. Graduate assistants are required to register for this course in the fall semester of their employment. This course does not earn graduate degree credit.

**2 Credit Hours. 2 Lecture Contact Hours. 0 Lab Contact Hours.**

**Course Attribute(s):** Graduate Assistantship|Exclude from Graduate GPA

**Grade Mode:** Leveling/Assistantships

### AT 5230. Clinical Experience I.

This course will integrate topics in athletic injury evaluation, management and intervention into an immersive clinical education experience designed to assess professional behaviors, cognitive knowledge, psychomotor skills and proficiency-based case simulations. The course incorporates didactic and clinical education at an assigned clinical site under the supervision of a clinical instructor. Prerequisite: AT 5320.

**2 Credit Hours. 0 Lecture Contact Hours. 20 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5231. Clinical Experience II.**

This course will integrate topics in athletic injury evaluation, management and intervention into an immersive clinical education experience designed to assess professional behaviors, cognitive knowledge, psychomotor skills and proficiency-based case simulations. The course incorporates didactic and clinical education at an assigned clinical site under the supervision of a clinical instructor. Prerequisite: AT 5230.

**2 Credit Hours. 0 Lecture Contact Hours. 20 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5232. Clinical Experience III.**

This course will integrate topics in athletic injury evaluation, management and intervention into an immersive clinical education experience designed to assess professional behaviors, cognitive knowledge, psychomotor skills and proficiency-based case simulations. The course incorporates didactic and clinical education at an assigned clinical site under the supervision of a clinical instructor. Prerequisite: AT 5230; AT 5231.

**2 Credit Hours. 0 Lecture Contact Hours. 20 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5299B. Thesis.**

This course represents a student's continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding.

**2 Credit Hours. 2 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Credit/No Credit

**AT 5302. Special Topics in Athletic Training.**

This course is designed to educate students in the scientific process and develop an in-depth understanding of the research process in Athletic Training.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5303. Seminar in Athletic Training.**

Current trends in athletic and physical education concerning the care and prevention of injuries with special emphasis on therapeutic and rehabilitation techniques. Taping and bandaging will be practiced in a laboratory situation.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5307. Bioenergetics of Exercise and Rehabilitation.**

This course is designed to provide both a theoretical and clinical basis for the use of therapeutic exercise in physiological basis of muscular, respiratory, cardiovascular, and nervous systems in the rehabilitation of all athletic injuries. Must be admitted to the MS in Athletic Training Program or instructor approval required.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5308. Therapeutic Exercise and Rehabilitation.**

This course is designed to provide both a theoretical and clinical basis for the use of therapeutic exercise in the rehabilitation setting, as well as to impart knowledge pertaining to the physiological effects, indications, contraindications and applications of therapeutic exercise in the rehabilitation of all athletic injuries. Must be admitted to the M.S. in Athletic Training Program.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5310. Proprioception and Neuromuscular Control in Rehabilitation.**

This course provides for an advanced study of the concepts, theories, and current research related to proprioception, postural stability, and neuromuscular control as applied to the prevention, diagnosis, and clinical management of sport-related musculoskeletal injuries and concussions. Must be admitted to the M.S. in Athletic Training Program or instructor approval required.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5311. Biomechanics of Musculoskeletal Injury.**

This course focuses on the application of biomechanical principles to the pathoetiology, diagnosis, and physiological capacity for healing of injuries to bone, ligament, tendon, cartilage, and other human tissues, with an emphasis on current injury research. Must be admitted to the M.S. in Athletic Training Program or instructor approval required.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5312. Evidence-Based Practice in Sports Medicine.**

This course is designed to provide students with advanced study in the elements of evidence-based practice in sports medicine with focus on the role of accessing, retrieving, and critically appraising evidence to answer clinical questions in patient care. Must be admitted to the M.S. in Athletic Training Program or instructor approval required. Prerequisite: ESS 5346 with a grade of "C" or better.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5318. Therapeutic Evaluation and Intervention.**

This course explores the scientific bases of therapeutic musculoskeletal exercise and neuromuscular evaluative techniques in the rehabilitation process. Must be admitted to the M.S. in Athletic Training Program.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5320. General Medical Conditions Assessment and Care.**

This course will enable the student to recognize, evaluate, differentiate and manage common systemic and traumatic conditions and diseases.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5333. Internship in Athletic Training.**

This 400-hour internship provides students with professionally related experience. Students may work with diverse clinical populations in varying athletic training settings. Internship is approved and supervised by Program Coordinator or assigned faculty. Prerequisite: Departmental approval.

**3 Credit Hours. 0 Lecture Contact Hours. 40 Lab Contact Hours.**  
**Grade Mode:** Standard Letter

**AT 5334. Clinical Experience IV.**

This course will integrate topics in athletic injury evaluation, management and intervention into an immersive clinical education experience designed to assess professional behaviors, cognitive knowledge, psychomotor skills and proficiency-based case simulations. The course incorporates didactic and clinical education at an assigned clinical site under the supervision of a clinical instructor. Prerequisite: AT 5230; AT 5231; AT 5232; AT 5333.

**3 Credit Hours. 0 Lecture Contact Hours. 30 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5335. Clinical Experience V.**

This course will integrate topics in athletic injury evaluation, management and intervention into an immersive clinical education experience designed to assess professional behaviors, cognitive knowledge, psychomotor skills and proficiency-based case simulations. The course incorporates didactic and clinical education at an assigned clinical site under the supervision of a clinical instructor. Prerequisite: AT 5230; AT 5231; AT 5232; AT 5333; AT 5334.

**3 Credit Hours. 0 Lecture Contact Hours. 30 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5340. Research Methods and Evidence Based Practice in Athletic Training.**

This course is designed to provide the student with an understanding of the statistical terminology when reading and appraising research studies in order to use evidence to inform clinical practice.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5341. Pathopharmacology.**

This course will examine the physiological responses and progression of injuries, illnesses, and diseases to the physically active individual. Additionally, this course will provide instruction in the principles and issues of the physiological and psychological response to the pharmacological use and/or abuse of substances. Prerequisite: AT 5320.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5342. Administration and Leadership in Athletic Training.**

This course will evaluate administrative aspects of an athletic training program management such as: risk management, medical record keeping, facilities, third-party reimbursement, health informatics and other current professional issues.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5343. Interdisciplinary Approach to Athletic Training.**

This course will examine the practice and educational implications of effective and efficient interprofessional teamwork and collaboration in patient care.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5344. Advanced Clinical Decision Making.**

This course provides students various settings to explore aspects of patient evaluation, intervention and outcomes in a simulated learning environment. Students will identify issues in patient care including physical and psychosocial characteristics. Students will apply clinical decision-making skills learned in all courses leading up this final semester class.

**3 Credit Hours. 0 Lecture Contact Hours. 3 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5347. Independent Study in Athletic Training.**

This course may be taken by a student who desires to work on a research problem or investigation in Athletic Training. The student gathers and analyzes pertinent data and submits a report of the results of the research. Repeatable once for credit. Prerequisite: ESS 5346 with a grade of "C" or better.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5399A. Thesis.**

This course represents a student's initial thesis enrollment. No thesis credit is awarded until student has completed the thesis in AT 5399B. Graded on a credit (CR), progress (PR), no credit (F) basis.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Credit/No Credit

**AT 5399B. Thesis.**

This course represents a student's continuing thesis enrollment. The student continues to enroll in this course until the thesis is submitted for binding.

**3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Credit/No Credit

**AT 5400. Gross Applied Anatomy.**

This course will examine the structure and function of the human body with emphasis on the skeletal and muscular systems. The course focuses on anatomy and physiology of systems of special interest to students preparing to become athletic trainers. Laboratory study of the human cadaver is included.

**4 Credit Hours. 3 Lecture Contact Hours. 4 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5401. Musculoskeletal Assessment of Upper and Lower Extremities.**

This course will examine the injury and illness signs and symptoms as well as specific tests and skills used in the clinical evaluation and assessment involving the upper and lower extremities. Prerequisite: AT 5400.

**4 Credit Hours. 3 Lecture Contact Hours. 4 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5402. Musculoskeletal Assessment of Head/Face/Spine and Neurological Systems.**

This course will enable the student to critically analyze the specific tests and skills used in the clinical evaluation and assessment involving the head, spine and neurological systems. Prerequisite: AT 5400; AT 5401.

**4 Credit Hours. 3 Lecture Contact Hours. 4 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5413. Therapeutic Interventions I.**

This course is designed to provide both a theoretical and clinical basis for the standardized systems approach to therapeutic modality applications to treat patients with musculoskeletal conditions and injury. Prerequisite: AT 5400.

**4 Credit Hours. 3 Lecture Contact Hours. 4 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5414. Therapeutic Interventions II.**

This course is designed to examine both a theoretical and clinical basis for the standardized systems approach to therapeutic exercise applications to treat patients with musculoskeletal conditions and injury. Prerequisite: AT 5400; AT 5413.

**4 Credit Hours. 3 Lecture Contact Hours. 4 Lab Contact Hours.**

**Grade Mode:** Standard Letter

**AT 5599B. Thesis.**

This course represents a student's continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding.

**5 Credit Hours. 5 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Credit/No Credit

**AT 5999B. Thesis.**

This course represents a student's continuing thesis enrollments. The student continues to enroll in this course until the thesis is submitted for binding.

**9 Credit Hours. 9 Lecture Contact Hours. 0 Lab Contact Hours.**

**Grade Mode:** Credit/No Credit