

**New Academic Program Plan
Master of Athletic Training (MATR)
Department of Kinesiology**

Supplemental Information and Documents

Program mission statement

Athletic training is the art and science of the prevention, recognition, care, and rehabilitation of athletic injuries. It involves the organization and administration of athletic training education programs, as well as the education and counseling of athletes and physically active individuals. Iowa State University athletic training program provides high quality education striving to instill in the athletic training students the intellectual curiosity, evidence based knowledge and clinical skills essential for their individual development. The athletic training program enrolls academically qualified students who represent diverse socio-economic levels, ethnic heritage and who provide a gender balance. The program faculty and clinical preceptors strive to prepare athletic training students to be productive and responsible citizens of the world and to foster affective, caring individuals to promote the profession of athletic training. The Athletic Training faculty and clinical preceptors continually update educational curriculum to keep athletic training students current with field knowledge and to ensure the best possible undergraduate and graduate education in both the didactic and clinical settings.

Program goals and objectives

1. To prepare athletic training students for the BOC Certification Exam.
2. To produce high quality athletic trainers prepared for employment in educational, clinical, and professional settings.
3. To promote professional and ethical conduct at all times.
4. To provide athletic training students equal opportunity to develop their skills both in the classroom and in the clinical settings.
5. To continually update the curricular offerings to provide the athletic training student current evidence based knowledge in the profession.
6. To provide high quality instruction in the classroom and clinical experiences.
7. To assist the athletic training student in gaining employment.
8. To promote the concept of establishing professional contacts by attending professional and educational meetings.
9. To foster an appreciation of athletic training as a component of sports medicine.
10. To foster the affective, caring side of athletic training.

Program outcomes

1. Athletic training graduates will use effective communication skills.
2. Athletic training graduates will demonstrate competence in athletic training skills and knowledge.

3. Athletic training graduates will possess ethical, caring, professional attributes and behaviors as a health care professional.
4. Athletic training graduates will demonstrate effective critical thinking and problem solving skills ensuring them of being an effective athletic trainer.
5. Athletic training graduates will demonstrate the ability to apply clinical skills and make evidence based decisions to optimize patient outcomes.

Admission Criteria:

1. Minimum undergraduate cumulative GPA of 3.0 on a 4-point scale
2. Scores on the Graduate Record Examination
3. Documentation of satisfactory performance (minimum grade of "C" or better) in foundational undergraduate coursework, including: introductory nutrition, introductory biology with lab, introductory chemistry with lab, introductory physics, human anatomy with lab, human physiology with lab, general psychology, biomechanics, exercise physiology, motor control and learning, and statistics
4. Letter of recommendation from a certified athletic trainer and documentation of completion of a minimum of 125 clinical observation hours under the supervision of a certified athletic trainer
5. Documentation of current first aid, CPR basic life support, and professional rescuer certification
6. Documentation of personal health and ability to meet program technical standards that establish the essential qualities necessary for students to achieve the knowledge, skills, and competencies of an entry-level athletic trainer, as well as meet the expectations of the program's accrediting agency (Commission on Accreditation of Athletic Training Education (CAATE)).
7. Personal statement (why athletic training, career goals, personal attributes)

Sample 24-month curricular plan:**Summer – year 1 (7 credits)**

Course	Credit	Title
A TR 501	1	Bracing, Wrapping, and Taping Techniques
A TR 502	3	Emergency Care Procedures in AT
A TR 520	1	Athletic Training Seminar A
A TR 509	2	Athletic Training Clinical Education I

Fall – year 1 (9 credits)

Course	Credit	Title
A TR 505	3	Therapeutic Modalities and Clinical Interventions
A TR 510	3	Evaluation Methods and Treatment Techniques – Lower Body
A TR 521	1	Athletic Training Seminar B
A TR 519	2	Athletic Training Clinical Education II

Spring – year 1 (12 credits)

Course	Credit	Title
KIN 501	3	Research Methods in Physical Activity
A TR 513	3	Evaluation Methods and Treatment Techniques – Upper Body
A TR 545	3	Therapeutic Exercise and Rehabilitation Interventions
A TR 522	1	Athletic Training Seminar C
A TR 529	2	Athletic Training Clinical Education III

Summer – year 2 (10 credits)

Course	Credit	Title
A TR 515	2	Evidence-based Practices in Athletic Training
A TR 550	2	Pharmacological Issues in Athletic Training
A TR 560	3	General Medical and Behavioral Health Issues
A TR 523	1	Athletic Training Seminar D
A TR 539	2	Athletic Training Clinical Education IV

Optional experiences

Course	Credit	Title
A TR 549A	1	Athletic Training Clinical Education Study Abroad (May)
A TR 549B	2	Athletic Training Clinical Education

Fall – year 2 (11 credits)

Course	Credit	Title
A TR 570	3	Injury Intervention, Rehabilitation and Patient Care
KIN elective	3	KIN 515 Injury Biom, KIN 550 Adv Ex Phys I, or KIN 572 Neural Basis
A TR 559	5	Athletic Training Clinical Education V

Spring – year 2 (9 credits)

Course	Credit	Title
A TR 575	3	Athletic Training Organization and Administration
A TR 524	1	Athletic Training Seminar E
A TR 569	5	Athletic Training Clinical Education VI

Total credit requirement: 58 credits

Course descriptions (note that 500-level A TR courses have not yet been approved):

A TR 501: Bracing, Wrapping, and Taping Techniques (0-3) Cr. 1. SS

Prereq: acceptance into Athletic Training program

Methods to select, fabricate, and/or customize prophylactic, assistive, and restrictive devices, material, and techniques into plan of care (durable medical equipment, orthotic devices, taping, bracing, splinting, protective padding, and casting). Students will gain knowledge in methods of taping and wrapping for injury care, prevention of injury, and return to play. Exposure to different brands of bracing, how to fit a brace, and their use as well as casting techniques. Discussions of when to refer for prosthetics and overview of gait training.

A TR 502: Emergency Care Procedures in Athletic Training (3-0) Cr. 3. SS

Prereq: acceptance into Athletic Training program

Development, implementation, and revision of policies pertaining to the prevention, preparedness and response to medical emergencies and other critical incidents. Evaluate and manage patients with acute conditions including triaging conditions and internal/external hemorrhage. Cardiac, respiratory, and cervical spine compromise.

A TR 505: Therapeutic Modalities and Clinical Interventions (3-0) Cr. 3. F

Prereq: A TR 502, A TR 520, acceptance into Athletic Training program

Knowledge and skills to utilize a variety of therapeutic modalities. The acquirement of a detailed understanding of the psychological and physiological process of pain, healing and a problem-based approach to apply theories, principles, and techniques of thermal, electrical, mechanical, light, and alternative therapies (laser, cryotherapy). Incorporation interventions (for pre-, post-, and non-surgical conditions) designed to address a patients' identified impairments, activity limitations, injuries, and participation restrictions. Home care to include self-treatment, soft tissue techniques.

A TR 509: Athletic Training Clinical Education I (0-6) Cr. 2. SS

Prereq: acceptance into Athletic Training program

Clinical experiences under the direct supervision of a certified athletic trainer. Techniques and clinical skills provided in both the clinical and classroom settings including: Special Olympics, emergency room rotation, environmental conditions, off season practice and conditioning sessions, biometrics/physiological monitoring systems and translation of data into effective preventative measures, clinical interventions, and performance enhancement.

A TR 510: Evaluation Methods and Treatment Techniques – Lower Body (3-0) Cr. 3. F

Prereq: A TR 502, A TR 520, acceptance into Athletic Training program

Instruction on the proper methods of musculoskeletal evaluation of the upper extremity, thorax, spine, and head. Evaluate and manage patient (s) with acute conditions including triaging conditions that are life threatening or otherwise emergent. Obtaining a medical history, proper methods of documentation, patient overview, and determination for participation status (PPE), identification of comorbidities, assessment of function, selection and use of special tests and measures assessing patient's clinical presentation, evaluation of all results to determine a plan of care, including referral when warranted. Selection and incorporations of interventions designed to address a patient's identified impairments, activity limitations, and participation restriction.

A TR 513: Evaluation Methods and Treatment Techniques– Upper Body (3-0) Cr. 3. S

Prereq: A TR 510, A TR 521, acceptance into Athletic Training program

Proper methods of musculoskeletal evaluation of the lower extremity. Evaluate and manage patient (s) with acute conditions including triaging conditions that are life threatening or otherwise emergent. Obtaining a

medical history, proper methods of documentation, patient overview, identification of comorbidities, assessment of function, selection and use of special tests and measures assessing patient's clinical presentation, evaluation of all results to determine a plan of care, including referral when warranted. Selection and incorporations of interventions designed to address a patient's identified impairments, activity limitations, and participation restriction.

A TR 515: Evidence-based Practices in Athletic Training (2-0) Cr. 2. SS

Prereq: A TR 522, A TR 545, acceptance into Athletic Training program

Principles of evidence-based practice, search for evidence, grading and evaluating literature. Use of systems of quality assurance and improvement to enhance patient care, search, retrieve, and incorporating the use of contemporary principles and practices information from health informatics for clinical decisions and communication with patients/clients, family members, coaches, administrators, other healthcare providers, consumers, payors, and/or policy makers. Use of the International Classification of Functioning, Disability, and Health (ICF) as a framework for delivery and communication about patient care.

A TR 519: Athletic Training Clinical Education II (0-6) Cr. 2. F

Prereq: A TR 510, A TR 521, acceptance into Athletic Training program

Clinical experiences under the supervision of a certified athletic trainer with client/patient populations in competitive, recreational, individual and team activities, high and low intensity activities, non-sport client/patient populations, different sexes and throughout the lifespan (pediatric, adult, elderly). Real client/patient interactions as well as assessment of clinical component procedures and policies. Clinical hours occur in a variety of settings with patients and the student will complete the clinical hours that may extend prior to and/or beyond the academic semester end date. These clinical opportunities provide a basis for evaluating the athletic training student's clinical progression through the program.

A TR 520: Athletic Training Seminar A (1-0) Cr. 1. SS

Prereq: acceptance into Athletic Training program

Introduction to athletic training program and to explore the following topics: environmental issues and concerns, wound care/closure, fractures/dislocations, hemostatic agents/tourniquet applications. Blood borne pathogen training, communicable and infectious disease prevention, FERPA/HIPAA, concussion/brain injury with consideration of established protocols including: comprehensive examination, recognition, and treatment, implementation of a plan of care, referral, and return to participation. Use of C3Logic, Impact testing, and other methods will be introduced.

A TR 521: Athletic Training Seminar B (1-0) Cr. 1. F

Prereq: A TR 502, A TR 520, acceptance into Athletic Training program

Procedures on how to obtain via the appropriate team physicians and medical staff the necessary and appropriate diagnostic tests (including imaging, bloodwork, urinalysis, electrocardiogram) to facilitate diagnosis, referral, and treatment planning. Surgical observation experience including pre-, post- care designed to address a patient/s identified impairments, activity limitations, and participation restrictions.

A TR 522: Athletic Training Seminar C (1-0) Cr. 1. S

Prereq: A TR 510, 521, acceptance into Athletic Training program

Explore other allied health professions and interprofessional collaboration for optimal patient care and referral. Total patient care and how different professions can impact the care will be explored and discussed. Participation in roundtable discussions with other interprofessional health professions and students are exposed to foundational behaviors of professional practice including but not limited to: work/family balance, ethics, mentorship, leadership, professional involvement, and promotion of the profession.

A TR 523: Athletic Training Seminar D (1-0) Cr. 1. SS

Prereq: A TR 522, A TR 545, acceptance into Athletic Training program

This seminar will allow the student to receive training and exposure in cupping, graston or ASTM technique for soft tissue mobilization, and dry needling. Extra course fee may be need to cover the cost of the training. This course will include case study analysis utilizing previous coursework including individual self-assessment of clinical skills.

A TR 524: Athletic Training Seminar E (1-0) Cr. 1. S

Prereq: A TR 515, A TR 550, A TR 565 and permission of the Athletic Training Program Director

This seminar will assess the athletic training students' mastery of knowledge and clinical skills in athletic training, prepare students for employment, and self-assessment. The course utilizes a case study covering all of the domains of athletic training and demonstrates interprofessional and interdisciplinary connections. Review of all of the athletic training domains via specific exams (written, simulation and computer based) will be utilized to prepare the student to challenge the BOC examination.

A TR 529: Athletic Training Clinical Education III (0-6) Cr. 2. S

Prereq: A TR 510, A TR 521, A TR 519, acceptance into Athletic Training program

Clinical experiences under the direct supervision of a certified athletic trainer where foundational behaviors of professional practice with emphasis being placed on evaluation of clinical skills. Reinforcement and instruction about therapeutic modalities, upper and lower extremity assessments. Clinical hours occur in a variety of settings with patients and the student will complete the clinical hours that may extend prior to and/or beyond the academic semester end date. These clinical opportunities provide a basis for evaluating the athletic training student's clinical progression through the program.

A TR 539: AT Clinical Education IV (0-6) Cr. 2. SS

Prereq: A TR 522, A TR 545, A TR 529, acceptance into Athletic Training program

Clinical experiences under the direct supervision of a certified athletic trainer where students are exposed to advanced issues in the athletic training profession with emphasis on practical application and professional development. Utilization of evidenced based research and approaches to clinical practice with emphasis placed on lab reports, imaging results, life-span issues, and diverse patient populations. Students will learn about foundational behaviors of professional practice and emphasis will focus on evaluation, treatment, rehabilitation, and clinical skills.

A TR 545: Therapeutic Exercise and Rehabilitation Interventions (3-0) Cr. 3. S

Prereq: A TR 510, 521, acceptance into Athletic Training program

Therapeutic and corrective exercise, joint mobilization, soft tissue techniques, movement training (including gait training), motor control/proprioceptive activities, task-specific functional training, home care including self-treatment and exercise, cardiovascular training. Pre, post, and non-surgical conditions and addressing activity limitations, participation restrictions and return to play guidelines.

A TR 549A : Athletic Training Clinical Education (study abroad) (1-0) Cr. 1. SS

This course is intended to prepare a student for a study abroad experience that is focused on the discipline of athletic training in another country. It precedes a multi-credit ATR 549B course that is the actual study abroad experience. The prerequisite for this course is having been accepted to study abroad by the Program Director of your intended program. For the "experience athletic training in ____" program, the prerequisites for acceptance are: 1. Graduate student majoring in Athletic Training, 2. Minimum GPA of 3.0 and 3. Having completed athletic training clinical education III. These are in addition to the study abroad program application requirements.

A TR 549B: AT Clinical Education Study Abroad (2-0) Cr. 2. SS

This two credit course is intended to give you a first-person perspective into the athletic training profession in another country as well as provide enrichment experiences related to the history and culture of that country. Follow-up course and experience of one credit A TR 549A which was intended to prepare the student for the study abroad experience. The prerequisites for A TR 549B are: having been accepted to study abroad by the AT Program Director and passing A TR 549A.

A TR 550: Pharmacological Issues in Athletic Training (2-0) Cr. 2. SS

Prereq: A TR 522, A TR 545, acceptance into Athletic Training program

General medical and pharmacological issues generally found in the field of athletic training. The course content covers various medications used to treat various medical conditions and the ability to educate patients regarding appropriate pharmacological agents for the management of their condition, including indications, contraindications, dosing, interactions, and adverse reactions. Administration of medications by the appropriate route upon the order of a physician or other provider with legal prescribing authority.

A TR 559: Athletic Training Clinical Education V (0-14) Cr. 5. F.

This course serves to monitor student progression of athletic training proficiencies, acquiring clinical skills under the direct supervision of a certified athletic trainer. It will reinforce and instruct new information about general medical conditions and administrative topics and begin the immersive clinical experience required prior to graduation. The field experience is designed to provide the student with immersive and additional athletic training experiences and clinical responsibilities for a minimum two clinical rotations lasting 5 weeks under the direct supervision of a certified athletic trainer or allied health care professional. The student is required to complete a minimum of 25 hours per week of field clinical experience. The athletic training student must have the site approved by the preceptor and AT program director prior to beginning the immersion clinical experience. The clinical experience may extend beyond the academic semester end date and the clinical hours are a component of this course.

A TR 560: General Medical and Behavioral Health Issues (3-0) Cr. 3. SS

Prereq: A TR 522, A TR 545, acceptance into Athletic Training program

This course addresses general medical issues generally observed in the athletic training profession. Development and implementation of wellness strategies to mitigate the risk for long-term health conditions across the lifespan and in an active population. Students will be exposed to topics including dermatology, mental illness, neurological disorders, pulmonary disease, respiratory infections, viral infections, autoimmune disorders, oncology, gastrointestinal conditions and sexually transmitted infections. The ability to identify, refer, and give support to patients with behavioral health conditions, educate clients/patients about effects, participation consequences, and risks of misuse and abuse of alcohol, performance-enhancing drugs/substances, and over the counter, prescription and recreational drugs including drug testing policies and procedures.

A TR 569: Athletic Training Immersion Clinical Education VI (0-14) Cr. 5. S.

Prereqs: A TR 565, permission of Athletic Training Program Director

Cumulative clinical experience for students to gain a more in-depth experience in the field of athletic training. The student selects a field or site experience that meets their professional goals. The field experience is designed to provide the student with immersive and additional athletic training experiences for a minimum of 10 weeks under the direct supervision of a certified athletic trainer. The athletic training student must have the site approved by the preceptor and AT program director prior to beginning the immersion clinical experience. The student is required to complete a minimum of 25 hours per week of field experience. The clinical experience may extend beyond the academic semester end date and the clinical hours are a component of this course.

A TR 570: Injury Intervention, Rehabilitation and Patient care (3-0) Cr. 3. F

Prereqs: A TR 515, A TR 550, A TR 560 and acceptance into Athletic Training Program.

Basic understanding of injury and sport psychology and its application to the overall health and well-being of athletic and general population clients. Psychological, social, socio-economical, and environmental factors that influence a client/patient and in their injury susceptibility, reaction, immediate care, and adherence to rehabilitation will be explored. Assessment and intervention techniques to promote and facilitate rehabilitation in a variety of professional settings and with patients from different backgrounds and social issues that may impact a patient. Overview of special populations (adolescent, female, special populations of athletes/physically active patients). Foundational behaviors of professional practice and working with other allied health care professionals in the overall health and well-being of a patient will be explored.

A TR 575: Athletic Training Organization and Administration (3-0) Cr. 3. S

Prereqs: A TR 565, concurrently enrolled in A TR 569

Knowledge and skills necessary for the administration aspect of an athletic training program. Course content includes but is not limited to: PPEs, how to manage physical, human, and financial resources in the delivery of healthcare services. Discussion of patient and insurance management, working relationships with interprofessional members of the health care team, policies and procedures for guidance in the daily operation of athletic training services including EAP or other critical incidents (concussion or other brain injuries), patients in behavioral health crisis, record keeping, athletic training facility design, resume development, and administrative/leadership skills and mentoring.

KIN 501: Research Methods in Physical Activity (3-0) Cr. 3. S

Prereq: Graduate classification in kinesiology and health or athletic training

Methods and techniques used in the design and interpretation of research involving physical activity. Emphasis on styles of writing, library use, and computer applications.

KIN 515: Injury Biomechanics (3-0) Cr. 3. Alt. S.

Prereq: undergraduate biomechanics or permission of instructor

Utilization of biomechanical principles to model injury mechanisms. Introduction to tissue mechanics of bone, articular cartilage, ligament, tendon, and muscle. Biomechanics of lower extremity, upper extremity, and head/neck/trunk injuries.

KIN 550: Advanced Physiology of Exercise (2-3) Cr. 3.

Prereq: KIN 505

Concepts and methods of assessing neurological, muscular, cardiovascular, and respiratory adjustments to exercise.

KIN 572: Neural Basis of Human Movement (3-0). Cr. 3. S.

Prereq: undergraduate motor control and learning

Addresses the role of the central nervous system in the control of voluntary human movement, with the focus on the cerebral cortex, basal ganglia and cerebellum. Content organized around specific nervous system damage (such as stroke, apraxia, spasticity, or spinal cord damage) and functional movements (such as reaching and grasping, balance and gait). Converging evidence from human movement disorders, brain imaging, animal lesion and single cell studies provide the primary basis for the content.