



## Approved Innovative Course

- Districts must have local board approval to implement innovative courses
- Innovative courses may meet state elective credit only
- CTE Innovative courses may not be the final course in a coherent sequence for an endorsement
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Course: Sports Medicine II  
PEIMS Code: N1150041  
Abbreviation: SPORTMD2  
Grade Level(s): 10-11  
Number of Credits: 1.0

### Course description:

This course provides a more in-depth study and application of the components of sports medicine including: CPR and AED certification, rehabilitative techniques; therapeutic modalities; prevention, recognition, and care of injuries to the head and face, spine, upper extremity, lower extremity; taping and bandaging; injuries to the young athlete; substance abuse in sports; and general health concerns in sports medicine. Individualized and independent assignments will be included in this course. This course will involve outside-of-class time homework and time required working with athletes and athletic teams. Students must receive the approval of the Licensed Athletic Trainer supervising the athletic training students' staff. There may be other required prerequisites for this course such as a Sports Medicine I course and/or Licensed Athletic Trainer approval.

### Essential knowledge and skills:

(a) General Requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: approval of the Licensed Athletic Trainer supervising the athletic training student aides for Sports Medicine I. Students shall be awarded one credit for successful completion of this course.

#### (b) Introduction

(1) Sports Medicine II is designed for students continuing in the student athletic trainer program. This course will provide the students with actual hands-on psychomotor skills development in the specified areas of the curriculum. Sports Medicine II compliments a student's science course education in high school and prepares students for college health care profession courses.

(2) Sports Medicine II acknowledges the student's interest in sports related medical fields of study. This course is designed to provide an advanced study and application of



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the components of sports medicine including Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) certification, rehabilitative techniques; therapeutic modalities; prevention, recognition, and care of injuries to the head and face, spine, upper extremity, lower extremity; taping and bandaging; injuries to the young athlete; substance abuse in sports; and general health concerns in sports medicine. This course will involve outside-of-class time homework and time required working with athletes and athletic teams. Students must receive the approval of the Licensed Athletic Trainer supervising the athletic training students' staff. There may be other required prerequisites for this course such as a Sports Medicine I course and/or Licensed Athletic Trainer approval

### (c) Essential Knowledge and Skills

(1) Physical Fitness Components. The student identifies and demonstrates knowledge and skills for physical fitness testing. The student is expected to:

- (A) summarize the need for the fitness of all individuals;
- (B) assist in fitness testing of students;
- (C) demonstrate assessment skills pertaining to fitness testing;
- (D) demonstrate exercises for cardiovascular, flexibility, strength, and muscular endurance;
- (E) perform the measurements for determining body composition; and
- (F) demonstrate how to record data from body composition, flexibility, and strength testing.

(2) CPR, AED, and first-aid procedures. The student demonstrates the knowledge and skills in performing first aid and the use of CPR and an AED. The student is expected to:

- (A) identify the emergency situations that would call for the use of CPR and AED protocols;
- (B) demonstrate the skills used in CPR and using an AED;
- (C) demonstrate selected skills in first aid such as acute care and splinting;
- (D) perform manual conveyance and ambulatory aid;
- (E) demonstrate proper crutch fitting;
- (F) demonstrate proper instruction of walking with crutches;



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(G) identify the signs of shock and perform management techniques including laying the victim prone, raising legs, and reassuring the victim;

(H) explain relevant information to a 911 operator in a simulated setting.

(3) Bloodborne Pathogens and Wound Care. The student demonstrates knowledge and skills in wound care, bloodborne pathogens, and universal precautions. The student is expected to:

(A) identify various types of wounds including abrasions, lacerations, punctures, avulsions;

(B) demonstrate the immediate care for open wounds and stopping bleeding;

(C) demonstrate the proper cleansing of wounds;

(D) demonstrate the selected methods of dressing and bandaging acute wounds;

(E) demonstrate proper techniques to apply and remove gloves;

(F) demonstrate proper disposal of saturated bandages; and

(G) demonstrate the use of other Personal Protective Equipment (PPE) as specified by instructor.

(4) Bandaging and Taping. The student identifies and demonstrates various bandaging & taping skills. The student is expected to:

(A) explain the need for and demonstrate the application of various roller, triangular, and cravat bandages;

(B) identify the different taping materials available;

(C) demonstrate the use of specialty taping materials;

(D) explain the purpose of each strip in the application of tape to an arch, ankle, shin, hand, wrist, and thumb; and

(E) perform the proper removal of tape and bandages from an extremity.

(5) Injury Rehabilitation. The student demonstrates knowledge and skills in basic injury rehabilitation. The student is expected to:

(A) demonstrate isometric and isotonic exercises;

(B) demonstrate proper instruction of rehab exercise as specified by instructor;

(C) perform an instructor- (athletic trainer) specified rehab exercise for each upper and lower extremity;

(D) demonstrate proper functional progression exercise as specified by instructor;



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- (E) demonstrate proper use of rehab equipment such as bike, weights, and theraband as specified by an instructor (athletic trainer);
- (F) demonstrate proper sport-specific rehab exercise as specified by instructor;
- (G) identify the criteria for return to play; and
- (H) maintain proper record keeping of a rehab session.
- (6) Therapeutic Modalities. The student demonstrates knowledge and skills in the basic of use of therapeutic modalities. The student is expected to:
- (A) describe the effects of cold versus heat modalities on the body;
- (B) identify the various heat and cold modalities available;
- (C) describe the effect of electrical stimulation and ultrasound on the healing process of athletic injuries;
- (D) demonstrate the proper set-up of specified modalities; and
- (E) perform the proper application of a selected modality(s).
- (7) Injury Recognition. The student demonstrates knowledge and skills in the recognition of sports injuries. The student is expected to:
- (A) differentiate between acute and chronic injury;
- (B) describe acute traumatic injuries, including fractures, dislocations and subluxations, contusions, ligament sprains, muscle strains, muscle soreness, and nerve injuries;
- (C) identify chronic overuse injuries in sports such as shin splints, plantar fasciitis, and stress fractures and their causes;
- (D) describe the phases of the inflammatory process due to injury;
- (E) identify the various phases of the healing process; and
- (F) demonstrate the steps in evaluation of injury.
- (8) Head and Face Injuries. The student can demonstrate knowledge and skills in the management of injuries to the head and face. The student is expected to:
- (A) identify anatomical surface landmarks, including skull, and facial bones, temporomandibular joint, occipital bone, frontal bone, temporal bones, parietal bones, and mastoid process; and
- (B) demonstrate major selected head and face assessment skills, including strength testing, blowout fracture test, bite test, cranial-neurological assessment, and Sports Concussion Assessment Tool #3.



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(9) Spine Injuries. The student demonstrates knowledge and skills in the management of spine injuries in sports. The student is expected to:

(A) identify spinal anatomical surface landmarks, including cervical, thoracic, lumbar, sacral vertebrae, and spinous processes;

(B) describe the physiology of and demonstrate spinal active ranges of motion including flexion, extension, lateral flexion, and rotation; and

(C) demonstrate the major selected assessment skills for the spine such as active flexion, extension, rotational movements and active strength testing in each range of motion.

(10) Thorax and Abdominal Injuries. The student demonstrates knowledge and skills in the management of injuries in the thorax and abdomen. The student is expected to:

(A) identify thorax and abdominal anatomical surface landmarks, including ribs, sternum, xiphoid process, liver, spleen, kidneys, stomach, and intestines;

(B) describe the physiology of and demonstrate thorax and abdominal active range of motion including lateral flexion, flexion, phases of breathing; and

(C) demonstrate the major thorax and abdominal assessment skills, including rib squeeze test, organ palpation, and rebound test.

(11) Shoulder Injuries. The student demonstrates knowledge and skills in the management of shoulder injuries in sports. The student is expected to:

(A) identify shoulder anatomical surface landmarks, including humerus, glenoid fossa, clavicle, scapula, glenohumeral joint, sternoclavicular joint, and acromioclavicular joint;

(B) describe the physiology of and demonstrate shoulder active range of motions, including flexion, extension, adduction, abduction, circumduction, and rotation;

(C) demonstrate the major selected shoulder assessment skills such as active flexion, extension, adduction, abduction movements, active strength testing in each range of motion; and

(D) demonstrate a selected shoulder taping/wrapping technique such as shoulder spica wrap, acromioclavicular support taping/wrapping, and sternoclavicular support taping/wrapping.

(12) Elbow, Wrist, and Hand Injuries. The student demonstrates knowledge and skills in the management of injuries to the elbow, forearm, wrist, hand and fingers. The student is expected to:

(A) identify elbow, hand, and wrist anatomical surface landmarks, including radius, ulna, olecranon process, carpals, scaphoid, metacarpals, and phalanges;



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(B) describe the physiology of and demonstrate major selected elbow, wrist, and hand active ranges of motion including flexion, extension, rotation, and opposition;

(C) demonstrate the major selected elbow, wrist and hand assessment skills such as active flexion, extension, rotational movements and active strength testing in each range of motion; and

(D) demonstrate a selected elbow, wrist, and hand taping/wrapping techniques such as elbow hyperextension elbow taping, wrist sprain taping, hand contusion taping, thumb taping, and finger taping.

(13) Thigh, Hip, Groin, and Pelvis Injuries. The student demonstrates knowledge and skills in the management of injuries to the thigh, hip, and pelvis in sports. The student is expected to:

(A) identify thigh, hip, and pelvis anatomical surface landmarks, including femur, ilium, ischium, sacrum, quadriceps, hamstrings, groin muscles, abductor muscles, and sartorius muscle;

(B) describe the physiology of and demonstrate active ranges of motion of thigh, hip, and pelvis, including extension, flexion, adduction, abduction, and circumduction;

(C) demonstrate the major selected thigh, hip, and pelvis assessment skills such as active muscle strength assessment of quadriceps, hamstrings, abductors, hip flexors, hip extensors, adductors, circumductors; and

(D) demonstrate selected thigh, hip and pelvis taping/wrapping techniques such as Quadriceps support wrap, hamstring support wrap, groin spica support wrap, and hip flexor support wrap.

(14) Knee Injuries. The student demonstrates knowledge and skills in the management of knee injuries in sports. The student is expected to:

(A) identify knee anatomical surface landmarks, including femur, tibia, patella, medial collateral ligament, lateral collateral ligament, medial and lateral meniscus, and tibial tubercle;

(B) describe the physiology of and demonstrate knee active ranges of motion, including flexion, extension, adduction, abduction, and rotation;

(C) demonstrate the major selected knee assessment skills such as valgus test, varus test, anterior drawer test, Lachman test; and

(D) demonstrate selected knee taping/wrapping techniques such as knee compression wrap, knee ligament taping, and patellofemoral taping.



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(15) Ankle and Lower Leg Injuries. The student demonstrates knowledge and skills in the management of ankle and lower leg injuries in sports. The student is expected to:

- (A) identify ankle and lower leg anatomical surface landmarks, including fibula, tibia, Achilles tendon, calcareous, lateral and medial malleolus, cuboid, tarsals, and metatarsals;
- (B) describe the physiology of and demonstrate ankle and lower leg active ranges of motion, including plantar flexion, dorsiflexion, circumduction, eversion, and inversion;
- (C) demonstrate the major selected ankle and lower leg assessment skills such as anterior drawer, bump test, squeeze test, Thompson test; and
- (D) demonstrate ankle and lower leg selected taping/wrapping techniques, including ankle taping, Achilles tendon taping, plantar fascia taping, and heel taping.

(16) Foot Injuries. The student demonstrates knowledge and skills in the management of foot injuries. The student is expected to:

- (A) identify foot anatomical surface landmarks, including medial and lateral malleolus, calcareous, talus, navicular, tarsals, metatarsals, and phalanges;
- (B) describe the physiology of and demonstrate foot active ranges of motion, including dorsiflexion, plantar flexion, circumduction, eversion, and inversion;
- (C) demonstrate selected foot assessment skills for injuries such as phalange sprains, great toe sprains, plantar fasciitis, Achilles tendinitis, and;
- (D) demonstrate selected foot taping/wrapping techniques such as blister bandaging, toe sprains, and arch sprain taping.

(17) Substance Abuse. The student demonstrates knowledge and skills in anabolic steroid and performance enhancing substance drug testing programs. The student is expected to:

- (A) describe illegal substances that are currently used by athletes such as prescription stimulants (Adderall, Ritalin), opiates, cocaine, and prescription pain medications;
- (B) explain the dangers of anabolic steroids and performance enhancing drugs; and
- (C) research current statistics regarding the use of performance enhancing drugs and anabolic steroids by adolescent athletes.



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(18) Health Concerns and Disorders. The student identifies special, non-skeletal health concerns and explains how to address and care for various disorders that affect athletic performance. The student is expected to:

- (A) describe the causes, prevention, and care of the most common skin infections in sports, including Impetigo, Staphylococcal Disease, MRSA, Folliculitis, Carbuncle, Herpes Simplex, Herpes zoster (chicken pox), Tinea corporis (ringworm);
- (B) identify and describe respiratory tract illnesses;
- (C) identify disorders of the gastrointestinal tract;
- (D) describe the management of the diabetic athlete;
- (E) identify the danger ranges of hypertension related to blood pressure;
- (F) demonstrate taking blood pressure;
- (G) demonstrate taking minute pulse rate;
- (H) demonstrate taking minute respirations;
- (I) describe the adverse effects of anemia;
- (J) demonstrate the proper first aid treatment for a grand mal seizure;
- (K) identify contagious viral diseases that are common to athletes;
- (L) identify the concerns inherent in medical and non-medical drug use among athletes.

(19) Athletic Training Room Management. The student identifies and demonstrates the skills needed to assist in the management of the athletic training room. The student is expected to:

- (A) describe and demonstrate cleaning and maintenance of the athletic training room;
- (B) describe and demonstrate record keeping procedures;
- (C) explain and perform skills in field set-up and breakdown of athletic facilities;
- (D) explain and perform specified modality and rehab area management skills; and
- (E) explain and perform rehabilitation supervision and assistance skills.





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### *Description of specific student needs this course is designed to meet:*

There are many facets to careers in involving the integration of medicine and physical activity that a simple health, physical education class, or that a current science course offered cannot address. Students, in general, are unaware of the variety of careers offered in medicine, including sports medicine, the education required, and the responsibilities involved.

This course acknowledges student interest in medical, sports related fields of study and offers them a head start in all aspects involved, including injury prevention, recognition, and care; injury evaluation; and other health career opportunities.

### *Major resources and materials:*

- (1) Classroom set of textbooks
- (2) Videos and DVD's for injury evaluation associated therapeutic exercises and issues in sports medicine or medical health care
- (3) Athletic Training Room will be used as laboratory
- (4) Professional journals and periodicals
- (5) Computer software
- (6) Computer lab
- (7) School library
- (8) Local and area health care professionals
- (9) Anatomical models
- (10) Equipment for lab practicum's

### *Recommended course activities:*

- (1) Read the text.
- (2) Complete worksheets and exams.
- (3) Achieve certification or recertification in First Aid/Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) use.
- (4) Complete writing projects concerning situations, signs, or symptoms involved in the suspicion of internal injury.



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- (5) Complete writing projects regarding special health concerns like respiratory infections, asthma, obesity, diabetes, and seizures.
- (6) Design emergency action plans for special concerns like diabetes and asthma.
- (7) Measure volume of air exchanged with a peak flow meter.
- (8) Conduct demonstrations with modality equipment in training room.

### Optional:

- (9) Participate in field trips to hospitals, sports medicine facilities, physical therapy facilities, health clubs, athletic training rooms, and other health care professional facilities.
- (10) Schedule a field trip to (or invite) a local Emergency Medical Service (EMS) professional to visit with students about their role in the care of athletes.
- (11) Select a sport and design a preseason, in season, and off-season conditioning program.
- (12) Demonstrate the proper preparation of a moist heat pack and ice pack.
- (13) Demonstrate the proper preparation of the hot and cold whirlpool.
- (14) Write daily treatment and rehab notes for an injury, until the athlete's full return.
- (15) List the proper performance of tests involving a shoulder injury.
- (16) Debate modern issues in sports medicine.
- 17) Present at a student health fair.
- (18) Role play a sports medicine team involved in the care of an injury to a professional athlete witnessed on television.
- (20) Research the local opportunities available for volunteer service in health care.
- (21) Design strength and conditioning program for an employee injured on the job, with a goal of full return to work.
- (22) Measure joint range of motion with a goniometer.
- (23) Create and present a written and oral summary of a National Athletic Trainers' Association (NATA) Position Statement regarding a particular sports medicine issue.
- (24) Create and present a video project on a weight lifting exercise and its proper demonstration.



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(25) Create and present a video of the demonstration of various rehabilitation exercises or certain conditioning exercises.

(26) Perform a lab exercise on the effect of exercise on heart rate and blood pressure.

### Suggested methods for evaluating student outcomes:

- (1) Written exams
- (2) Oral exams
- (3) Practical Exams (demonstration of various injury evaluations, injury management situations and taping skills)
- (4) First Aid/Cardiopulmonary Resuscitation/Automated External Defibrillator certification
- (5) Demonstration of taping techniques
- (6) Demonstration of precautions for Bloodborne pathogens
- (7) Demonstration of the application of various modalities (ice, heat, ultrasound, electric stimulation, whirlpool, etc)
- (8) Demonstration of stretching techniques
- (9) Demonstration of therapeutic exercises (including isometric, isotonic, and isokinetic)
- (10) Teacher made labs
- (11) Complete individual and team assignments
- (12) Submission of individual and team projects, demonstrating understanding and application of athletic injury skills and knowledge. (These projects may be written, audio-visual, oral, or practical)

### Teacher qualifications:

A teacher of the Texas State Athletic Trainers Association (TSATA) Sports Medicine I, II, and III courses must hold a valid Texas secondary teacher certificate.

School district board of trustees has the option to issue a school district teaching permit (SDTP) for individuals who are not certified to teach. The type of SDTP for sports medicine courses would be for "Noncore Academic CTE Courses" by Authority of the School District Board of



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Trustees. As directed on the form, the employing school district shall submit the completed application form.

The instructor of any TSATA Sports Medicine innovative course shall:

1. Be a licensed athletic trainer by the Texas Department of Licensing and Regulation;
2. Have completed the TSATA Sports Medicine Instructor's Curriculum Course; and
3. Hold the TSATA Sports Medicine Instructor certificate.

For more information about the instructor course please visit <http://www.tsata.com/sports-medicine-course/>

For more Information on school district teaching permits, visit the TEA webpage at <http://tea.texas.gov/index2.aspx?id=25769812546>

*Additional information:*