

Sports Medicine II

PEIMS Code: N1150041

Abbreviation: SPORTMD2

Grade Level(s): 10-12

Award of Credit: 1.0

State Approved Innovative Course

- Districts must have local board approval to implement innovative courses.
- In accordance with Texas Administrative Code (TAC) §74.27, school districts must provide instruction in all essential knowledge and skills identified in this innovative course.
- Innovative courses may only satisfy elective credit toward graduation requirements.
- Please refer to TAC §74.13 for guidance on endorsements.

Course Description:

Sports Medicine II provides high school students an introduction to first aid; cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) certification; rehabilitative techniques; therapeutic modalities; prevention, recognition, and care of injuries to the head, face, spine, upper extremity, and lower extremity; taping and bandaging; adolescent sport injuries; substance abuse; and general health concerns in sports medicine. The goal of this course is to provide lab instruction for physical skill development and evidence-based skill knowledge within the domains of sports medicine and athletic training. To accomplish this goal, the course will involve outside-of-class clinical experience assisting with the school's sports teams.

Essential Knowledge and Skills:

- (a) General Requirements. Students shall be awarded one credit for successful completion of this course. Recommended prerequisite: Sports Medicine I. This course is recommended for students in Grades 10-12.
- (b) Introduction.
 - (1) *Sports Medicine II* provides students with a focus on introducing the psychomotor applications of the components in sports medicine and athletic training. The components include cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) certification; rehabilitative techniques; therapeutic modalities; prevention, recognition, and care of injuries to the head, face, spine, upper extremity, and lower extremity; taping and bandaging; adolescent sport injuries; substance abuse and general health concerns in sports medicine. The goal of this course is to provide lab instruction for physical skill development and evidence-based skill knowledge within the domains of sports medicine and athletic training. To accomplish this goal, the course will involve outside-of-class clinical experience assisting with the schools' sports teams.

- (2) Statements containing the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.
- (c) 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) describe the steps in assessing the fitness of students;
 - (C) explain how to assess the skills pertaining to fitness testing;
 - (D) describe the fitness exercises for cardiovascular, flexibility, strength, and muscular endurance;
 - (E) perform the measurements for determining body composition; and
 - (F) describe how to record data from body composition, flexibility, and strength testing.
 - (2) Cardiopulmonary resuscitation (CPR), automated external defibrillator (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) explain and demonstrate how to perform the skills used in CPR and using an AED;
 - C) describe the selected skills in first aid such as acute care and splinting;
 - D) perform manual conveyance and ambulatory aid;
 - E) describe proper crutch fitting;
 - F) describe proper instruction for walking with crutches;
 - G) identify the signs of shock and perform management techniques including laying the victim prone, raising legs, and reassuring the victim; and
 - 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, and avulsions;
 - B) describe and perform the immediate care for open wounds and stopping bleeding;
 - C) describe and perform the proper cleansing of wounds;
 - D) describe and demonstrate the proper selection methods of dressing and bandaging acute wounds;
 - E) describe and demonstrate the proper techniques to apply and remove gloves;
 - F) describe and demonstrate the proper disposal of saturated bandages; and
 - G) describe and perform the use of other personal protective equipment (PPE) as specified by instructor.
 - 4) Bandaging and taping. The student identifies and demonstrates various bandaging and taping skills. The student is expected to:

Sports Medicine II

- A) explain the need for and demonstrate the application of various roller, triangular, and cravat bandages;
 - B) identify the different taping materials available;
 - C) describe 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) compare isometric and isotonic exercises;
 - B) explain the principles of rehabilitative exercise;
 - C) perform an instructor-(athletic trainer)specified rehab exercise for each upper and lower extremity;
 - D) explain the proper functional progression of exercise;
 - E) describe the proper use of rehab equipment such as bike, weights, and TheraBand as specified by an instructor (athletic trainer);
 - F) explain the 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 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) describe the proper set-up of specified modalities; and
 - E) perform the proper application of selected modalities.
- 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 explain their causes;
 - D) describe the phases of the inflammatory process due to injury;
 - E) identify the various phases of the healing process; and
 - F) explain and perform the steps of the evaluation process of an injury.

- 8) Head and face injuries. The student demonstrates knowledge and skills in the management of injuries to the head and face. The student is expected to:
 - A) Identify and palpate anatomical surface landmarks, including skull, facial bones, temporomandibular joint, occipital bone, frontal bone, temporal bones, parietal bones, and mastoid process; and
 - B) describe and perform the major selected head and face assessment skills, including strength testing, blowout fracture test, bite test, cranial-neurological assessment, and the utilization of skills use for the Sports Concussion Assessment Tool #6.
- 9) Spine injuries. The student demonstrates knowledge and skills in the management of spine injuries in sports. The student is expected to:
 - A) identify and palpate 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) identify and perform 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 and palpate 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, and phases of breathing; and
 - C) explain and 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 and palpate 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) identify and perform the major selected shoulder assessment skills such as active flexion, extension, adduction, abduction, and active strength testing in each range of motion; and
 - D) explain and demonstrate a selected shoulder taping and wrapping technique such as shoulder spica wrap, acromioclavicular support taping and wrapping, as well as sternoclavicular support taping and 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 and palpate elbow, hand, and wrist anatomical surface landmarks, including radius, ulna, olecranon process, carpals, scaphoid, metacarpals, and phalanges;

- B) describe the physiology of and demonstrate major selected elbow, wrist, and hand active ranges of motion including flexion, extension, rotation, and opposition;
 - C) explain and perform 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) explain and demonstrate a selected elbow, wrist, and hand taping and wrapping technique, 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 and palpate 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) describe and perform the major selected thigh, hip, and pelvis assessment skills, such as active muscle strength assessment of quadriceps, hamstrings, abductors, hip flexors, hip extensors, adductors, and rotators; and
 - D) explain and demonstrate selected thigh, hip, and pelvis taping and 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 and palpate 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) describe and perform the major selected knee assessment skills, such as valgus test, varus test, anterior drawer test, and Lachman test; and
 - D) explain and demonstrate selected knee taping and wrapping techniques, such as knee compression wrap, knee ligament taping, and patellofemoral taping.
- 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 and palpate ankle and lower leg anatomical surface landmarks, including fibula, tibia, Achilles tendon, calcaneus, 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) describe and perform the major selected ankle and lower leg assessment skills, such as anterior drawer, bump test, squeeze test, and Thompson test; and

- D) explain and demonstrate ankle and lower leg selected taping and 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 and palpate foot anatomical surface landmarks, including medial and lateral malleolus, calcaneus, 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) describe and perform selected foot assessment skills for injuries, such as phalange sprains, great toe sprains, plantar fasciitis, and Achilles tendinitis; and
 - D) explain and demonstrate selected foot taping and wrapping techniques, such as blister bandaging, toe sprains, and arch sprain taping.
- 17) Substance abuse. The student demonstrates knowledge 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, methylphenidate, amphetamine 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 and discuss them.
- 18) Health concerns and disorders. The student identifies special, non-skeletal health concerns and explains how to address and perform 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, folliculitis, carbuncle, herpes simplex, herpes zoster (chicken pox), and 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) explain and perform how to take a blood pressure;
 - G) explain and perform how to take a pulse rate;
 - H) explain and perform how to take minute respirations;
 - I) describe the adverse effects of anemia;
 - J) describe the proper first aid treatment for a grand mal seizure;
 - K) identify contagious viral diseases that are common to athletes; and
 - 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:

Sports Medicine II

- 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 assistance skills.

Recommended Resources and Materials:

Resources:

- Trowbridge, Cynthia A., and Cheryl M. Ferris. *Pfeiffer and Mangus's Concepts of Athletic Training*. Burlington, MA: Jones & Bartlett Learning, 2023.
- "Statements." NATA. July 14, 2024. <https://www.nata.org/news-publications/pressroom/statements>.
- "Home." *Korey Stringer Institute*. Accessed August 14, 2024. <https://koreystringer.institute.uconn.edu/>.
- "Health & Safety." *University Interscholastic League (UIL)*. Accessed August 14, 2024. <https://www.uil texas.org/health>.
- "Sports Medicine." Accessed August 14, 2024. <https://www.nfhs.org/resources/sports-medicine/>.
- "Heads Up." *Centers for Disease Control and Prevention*. Accessed August 14, 2024. <https://www.cdc.gov/heads-up/index.html>.

Materials:

- Anatomical models: knee, ankle, shoulder
- Equipment and supplies for labs: disposable gloves, bandaging materials, TheraBand tubing, dumbbell weights

Recommended Course Activities:

- Achieve certification or recertification in First Aid/Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) use
- Complete writing projects concerning situations, signs, or symptoms involved in the suspicion of internal injury.
- Complete writing projects regarding special health concerns like respiratory infections, asthma, obesity, diabetes, and seizures.
- Design emergency action plans for special concerns like diabetes and asthma.
- Measure volume of air exchanged with a peak flow meter.
- Conduct demonstrations with modality equipment in training room.
- Participate in field trips to hospitals, sports medicine facilities, physical therapy facilities, health clubs, athletic training rooms, and other health care professional facilities.
- 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.
- Select a sport and design a preseason, in season, and off-season conditioning program.
- Demonstrate the proper preparation of a moist heat pack and ice pack.

Sports Medicine II

- Demonstrate the proper preparation of the hot and cold whirlpool.
- Write daily treatment and rehab notes for an injury, until the athlete's full return.
- List the proper performance of tests involving a shoulder injury.
- Debate modern issues in sports medicine.
- Present at a student health fair.
- Role play a sports medicine team involved in the care of an injury to a professional athlete witnessed on television.
- Research the local opportunities available for volunteer service in health care.
- Design strength and conditioning program for an employee injured on the job, with a goal of full return to work.
- Measure joint range of motion with a goniometer.
- Create and present a written and oral summary of a National Athletic Trainers' Association (NATA) Position Statement regarding a particular sports medicine issue.

Suggested methods for evaluating student outcomes:

- Written exams
- Oral exams
- Practical exams (demonstration of various injury evaluations, injury management situations and taping skills) Skills Instructional Templates are available upon request
- First Aid/Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) certification
- Teacher-made labs

Teacher qualifications:

An assignment for the Texas State Athletic Trainers Association (TSATA) *Sports Medicine II* course must hold a valid Texas secondary teacher certificate and shall also:

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

School district board of trustees have 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 any teaching assignment other than "Noncore Academic CTE Courses" certified by the superintendent of the school district and issued by authority of the local district board of trustees. As directed on the form, the employing school district shall submit the completed application form.

Additional information:

TSATA Sports Medicine Instructor's Curriculum Course; Cost \$425.00 (One-time fee);

TSATA.com/Sports Medicine Course