

**MT. DIABLO UNIFIED SCHOOL DISTRICT  
COURSE OF STUDY**

**COURSE TITLE: Sports Medicine I**

**COURSE NUMBER: 8502**

**CBEDS NUMBER: 4298**

**DEPARTMENT: Science**

**LENGTH OF COURSE: 1 year**

**CREDITS PER SEMESTER: 5**

**GRADE LEVEL(S): 10-12**

**REQUIRED OR ELECTIVE: Elective – UC “g” requirement (pending)**

**PREREQUISITES: Biology**

**BOARD OF EDUCATION ADOPTION:**

**COURSE DESCRIPTION**

Sports Medicine I is the 10<sup>th</sup> grade career technical course designed to explore human anatomy and physiology as it pertains to athletic movements of the body as well as hands-on training in the basic duties of athletic training, academic proficiency in a medical environment, and employability skills. Students learn about athletic injuries as well as treatments and rehabilitation techniques for those injuries with emphasis on: the head and spine, chest and abdomen, lower leg and foot, upper leg and pelvis, shoulder, and hand and wrist. Throughout the course, Sports Med I 10<sup>th</sup> graders will explore different medical career paths and will become certified in CPR, First Aid, and automated external defibrillator (AED) use.

**COURSE OUTLINE:**

**1. MAJOR**

1.1 Students will be able to use knowledge of basic anatomy and physiology as well as use hands-on training to perform the basic duties of an athletic trainer, sports therapy aide, and fitness/rehabilitation specialist.

1.2 Students will be able to develop skills in the treatment and prevention of: soft tissue injuries, lower leg and foot injuries, pelvic and upper leg injuries, head, neck and spine injuries and shoulder, elbow, hand and wrist injuries.

1.3 Students will develop skills needed for future healthcare education and careers such as basic life support (including CPR and AED), taking basic vital signs, used of sports and therapeutic equipment, and medical terminology and academic proficiency.

- 2. PERFORMANCE OBJECTIVES:**
- 2.1 Recognize careers in Sports Medicine and other branches of healthcare
  - 2.2 Gain knowledge of individual Sports Medicine team member's role and responsibilities
  - 2.3 Demonstrate effective written and verbal communication skills as used within the healthcare professions
  - 2.4 Know and apply occupational safety and health policies, procedures, rules, and regulations related to medical professions
  - 2.5 Recognize how viruses and microorganisms are contagious and identify how to interrupt the process of infection
  - 2.6 Prevent the spread of communicable diseases by practicing aseptic techniques and complying with general safety precautions
  - 2.7 Acquire basic understanding of human anatomy as it pertains to Sports Medicine
  - 2.8 Correctly define, spell, abbreviate and pronounce key terms associated with Sports Medicine and healthcare
  - 2.9 Conduct primary and secondary assessments and be able to provide first aid for life threatening and non-life threatening emergencies
  - 2.10 Examine environmental factors that may affect the health or physical performance of athletes
  - 2.11 Demonstrate the proper extrication and/or stabilization techniques for an injured athlete
  - 2.12 Identify appropriate protective equipment used in Sports Medicine
  - 2.13 Recognize soft tissue and bone injuries and understand the healing processes of both
  - 2.14 Properly administer basic taping and wrapping as a preventative measure and to treat injuries
  - 2.15 Identify anatomical structures of the foot, ankle and lower leg and identify common injuries for each
  - 2.16 Identify anatomical structures of the knee, thigh, hips, and pelvis and list common disorders and injuries of each
  - 2.17 Identify anatomical structures and injuries of the shoulder and give initial treatments for those injuries
  - 2.18 Identify anatomical structures of the head, list common athletic injuries of the head, and describe initial treatments
  - 2.19 Identify anatomical structures, common athletic injuries, diseases of the abdomen and chest and give initial treatments for each
  - 2.20 Identify anatomical structures of the spine, list common injuries, diseases and provide initial treatment
  - 2.21 Obtain the skills of basic life support by learning the procedures to perform cardiopulmonary resuscitation

### **3. CONTENT OUTLINE:**

#### **3.1 Introduction to Sports Medicine and Healthcare Careers**

3.1.1 Historical Development of Therapeutic and Emergency Medical Services: address the increased need for specially trained individuals.

3.1.2 Education and Training Norms in the Field of Sports Medicine: identify and research different medical and healthcare career paths and certification requirements for each.

3.1.3 The Role of National Professional Agencies: research and identify the role of agencies such as the National Athletic Trainer's Association (NATA).

#### **3.2 Sports Medicine Team Roles, Responsibilities, and Legal Considerations**

3.2.1 Identify Team Members: understand level of responsibility of various team members and desirable traits such as ethics.

3.2.2 Legal Concerns in Sports Medicine: review and conform to rules of confidentiality (HIPPA) and identify liability issues.

#### **3.3 Basic Communication Skills in the Healthcare Profession**

3.3.1 Medical Terminology: study and use correct medical terminology.

3.3.2 Verbal Communication Skills: use appropriate vocabulary, demeanor, and vocal tone in classroom and athletic training facilities.

3.3.3 Active Listening: practice active listening to guest speakers, peers and staff taking time to understand points and ask appropriate questions.

3.3.4 Communicating in Reading and Writing: interpret and complete manuals, procedures, forms and reports applicable to the healthcare profession.

#### **3.4 Student Wellness and Injury/Illness Prevention in the Healthcare Environment**

3.4.1 Policy and Procedures: discuss the influences of professional organizations regarding safety guidelines and procedures established by OSHA.

3.4.2 Personal Safety: follow guidelines and procedures established by OSHA.

3.4.3 Reporting: understand procedures for reporting safety hazards to faculty and supervisors.

#### **3.5 Pathogens and Process of Infection**

3.5.1 Pathogens: identify pathogens, blood borne pathogens and non-pathogenic microorganisms.

3.5.2 Bacteria, Viruses and Other Microorganisms: explore and explain the differences between bacteria, viruses and other microorganisms as well as aerobic and anaerobic pathogens.

3.5.3 Breaking the Chain of Infection: identify conditions that promote bacterial growth.

#### **3.6 Standard Healthcare Precautions**

3.6.1 Biohazard Materials: review proper disposal protocol and understand importance of such procedures in the workplace.

3.6.2 Warning Systems: identify and comply with safety signs, symbols and labels.

3.6.3 Contamination Precautions: explain and use proper hand washing techniques and demonstrate proper techniques for using personal protective equipment and removing contaminated items.

### **3.7 Anatomy in Sports Medicine**

3.7.1 Understanding of Human Anatomy: define and identify the anatomical planes of the body.

3.7.2 Basic Human Body Systems: identify key functions and landmarks.

3.7.3 Classification of Joints: explain the movements of joints.

### **3.8 Medical Terminology**

3.8.1 Vocabulary Identification: understand and use prefixes, suffixes, root words and combining forms in defining medical terms.

3.8.2 Academic Vocabulary of Key Terms: use and define directional terms of the body, identify anatomical descriptors and fundamental human body structures.

### **3.9 Emergency Medical Assessment and Procedures**

3.9.1 Conducting Primary and Secondary Assessments: explain the difference between signs and symptoms and list common vital signs and how they are used in identifying an emergency.

3.9.2 Procedures for Life Threatening Emergencies: understand procedures to restart breathing and identify types of illnesses or injuries that cause breathing or the heart to stop.

3.9.3 First Aid: when to use, how to control external bleeding, questions to ask an injured athlete relating to a particular injury or illness and recognize what types of injuries can lead to shock.

### **3.10 Environmental Factors**

3.10.1 Environmental Factors Impacting Health: explore the effects of heat on the human body and preventable measures to prevent health related illnesses.

### **3.11 Stabilization and Transportation of Injured Athletes**

3.11.1 Extrication Techniques: removing an injured athlete from the field of play and knowing which transport equipment to utilize.

3.11.2 Stabilization Techniques: removing athletic equipment from an injured athlete and identifying when an athlete can walk off a field or court.

### **3.12 Protective Equipment in Sports**

3.12.1 Appropriate Protective Equipment: rules of required wear and how each piece of equipment provides protection or helps prevent specific injuries.

### **3.13 Soft Tissue and Bone Injuries**

3.13.1 Recognize Soft Tissue and Bone Injuries: the body's process of tissue repair and healing, the various types of bone fractures and the process of bone repair and healing.

- 3.14 Taping and Wrapping**
  - 3.14.1 Basic Taping: prophylactic taping, why tape is applied, the various tapes available, tape handling, skin preparation, taping techniques, reactions to tape and treatment, anatomical landmarks used in proper taping procedures.
  - 3.14.2 Basic Wrapping: prophylactic wrapping, why wraps are applied, why and how elastic wraps are applied for specific injuries.
- 3.15 Injuries to the Foot, Ankle, and Lower Leg**
  - 3.15.1 Basic Anatomy of the Foot, Ankle and Lower Leg: Palpate ligaments, bones, tendons, and muscles
  - 3.15.2 Common Injuries of the Foot, Ankle and Lower Leg: signs and symptoms, proper evaluation protocol, and proper methods for immediate treatment.
- 3.16 Injuries to the Knee, Thigh, Hips and Pelvis**
  - 3.16.1 Basic Anatomy of the Knee, Thigh, Hips and Pelvis: Palpate ligaments, bones, tendons, and muscles
  - 3.16.2 Common Injuries of the Knee, Thigh, Hips and Pelvis: signs and symptoms, proper evaluation protocol, and proper methods for immediate treatment.
- 3.17 Injuries to the Shoulder, Arm, Elbow, Wrist and Hand**
  - 3.17.1 Basic Anatomy: ligaments, bones, tendons and muscles
  - 3.17.2 Common Injuries of the Shoulder, Arm, Elbow, Wrist and Hand: signs and symptoms, proper evaluation protocol, and proper methods for immediate treatment.
- 3.18 Injuries to the Head and Brain**
  - 3.18.1 Basic Anatomical Structures of the Head: the skull, major parts of the brain and their functions.
  - 3.18.2 Common Injuries of the Head and Brain: guidelines for initial treatments, urgency with assessment and treatment, assessment using proper protocol.
  - 3.18.3 Concussions: three levels of concussions and how they should be treated.
- 3.19 Chest and Abdominal Injuries**
  - 3.19.1 Basic Anatomy of the Chest and Abdomen: identify anatomy and recognize the implications of illness, disease, or injury to specific organs.
  - 3.19.2 Injury Recovery and Prevention: Identify how to prevent injuries and understand the care necessary to treat specific athletic injuries to the chest and abdomen.
- 3.20 Spinal Injuries**
  - 3.20.1 Anatomy of the Spine: identify basic anatomy of the spine
  - 3.20.2 Spinal Injuries: research common spinal injuries occurring during athletic participation, the common signs and symptoms, treatment performed by athletic trainers and common postural problems.
- 3.21 CPR and Basic Life Support**
  - 3.21.1 Legalities of CPR: explore legal aspects of CPR and basic life support such as the Good Samaritan Law.

3.21.2 Cardiac Arrest and CPR: what happens during cardiac arrest, the steps in the procedure of performing cardiopulmonary resuscitation, proper use of an automated external defibrillator (AED), signs of an obstructed airway.

3.21.3 Certification: pass a nationally recognized CPR, First Aid and AED test for certification.

**4. TIME ESTIMATES:** Instructional sequences vary in length from a few days to several weeks.

**5. INSTRUCTIONAL MATERIALS:**

5.1 Supplementary textbooks and teacher-created materials that include a career focus

5.2 Visual aids including but not limited to models, charts, diagrams, graphs, photographs

5.3 Hands-on activities and skills labs utilizing medical equipment

5.4 Technology materials and on-line resources

**6. EVALUATION OF STUDENT PROGRESS**

6.1 Formative assessments such as quizzes, student work, checking for understanding, lab notebooks, charts, graphs, diagrams, lab assignments.

6.2 Summative assessments such as exams, unit tests, labs, and final exams.

6.3 Written assignments

6.4 Unit projects

6.5 Presentations

6.6 CPR, First Aid and AED Certification

**Committee Members:**

Mt. Diablo HS	Daniel Prodoehl	Teacher
Concord HS	Ernie Liu	Teacher
College Park HS	Janet Spencer	Teacher
Student Achievement & School Support	Marie Schirmer	School Support Administrator, Science