



*Prepares Students for College and Careers*

# ▲ Sports Medicine I (g)

## COURSE CODES:

▲ ROP 63060    ▲ WUHSD 8013    ▲ ERUSD AT419A    ▲ STATE (CALPADS) 7922

**Course Leads to:** Post-Secondary Education and Certification  
**Industry Sector:** Health Science and Medical Technology  
**Career Pathway:** Patient Care - 198  
**Classroom Hours:** 180  
**Work Based Learning:** 180 (optional)

**Course Level:** Capstone

## Approved Textbook/Curriculum:

POST-SECONDARY EDUCATION	INDUSTRY CERTIFICATION	EMPLOYMENT
Articulation with College            No Dual Enrollment with College        No UC Approved a-g elective credit      Yes, g	CPR  <b>NEXT STEPS</b>  ROP Sports Medicine II Post-Secondary Education	<b>Related Careers (O*NET)</b>  29-1123.00 Physical Therapists 31-2021.00 Physical Therapist Assistants 31-2022.00 Physical Therapist Aides 29-1069.11 Sports Medicine Physicians 29-9021.00 Athletic Trainers
<b>COLLEGE MAJORS</b>  Kinesiology Nursing Pharmacology Biochemistry Health Information		

## Prerequisites:

Successful completion of Medical Core with a 70% or better is required.

## Course Description:

Sports Medicine I will engage students in an in-depth study of whole body anatomy and physiology as a basis for understanding the processes involved in injury treatment, management, and healing. Technical instruction includes orientation, safety and infection control, communication and interpersonal skills, academic proficiency, and employability skills. Emphasis is placed on: ethical and legal considerations, pharmacology, sports and therapeutic equipment, nutrition and weight management, physical fitness assessment, physical conditioning, emergency preparedness and assessment, infection control, vital signs assessment, basic life support, injuries to the tissues, injuries to the head and spine, injuries to the chest and abdomen, environmental conditions, medical conditions, taping and wrapping, therapeutic modalities and physical rehabilitation. Hands-on laboratory experiences are an integral part of the course. This course provides students with an opportunity to learn the human anatomy and physiology through the eyes of a sports medicine professional. By using sports and athletics as a vehicle to teach the structure and function of the human body students are better able to identify with the material being taught.

Integrated throughout the course are standards for Career Ready Practice and Academic Content Standards which include: appropriate technical skills and academic knowledge; communication skills; career planning; applied technology; critical thinking and problem solving; personal health and financial literacy; citizenship, integrity, ethical leadership and effective management; work productively while integrating cultural and global competence; creativity and innovation; reliable research strategies, and environment, social and economic impacts of decisions.

## **COURSE OUTLINE**

### **I. ORIENTATION**

- A. Introduce course and facilities
- B. Discuss syllabus and major objectives
- C. Explain attendance, grading, classroom procedures, code of conduct
- D. Complete course safety requirements/test

### **II. CAREERS IN SPORTS MEDICINE**

#### **KEY ASSIGNMENT – CAREER ANALYSIS**

- A. Research and understand various occupations within the Sports Medicine industry sector
- B. Research different legal and ethical issues in sports medicine
- C. Discuss environmentally sound practices and sustainability within the industry sector
- D. Discuss various forms of leadership and entrepreneurship as it relates to the sports medicine industry
- E. Discuss and understand the value of effective verbal and non-verbal communication

### **III. PREPARING FOR COLLEGE AND CAREERS**

- A. Review and Discuss California CTE Model Curriculum Standards for Career Ready Practice
- B. Create an Education Plan and a Career Plan aligned with personal goals
- C. Create a Resumé
- D. Create a Career Portfolio
- E. Complete a handwritten/hand-printed Job Application neatly, legibly and with no corrections or mistakes
- F. Practice a professional job interview
- G. Evening of Excellence Essay

### **IV. EMERGENCY PREPAREDNESS, ASSESSMENT, AND INFECTION CONTROL**

#### **KEY ASSIGNMENT – ACTION PLAN**

- A. Describe the importance of initial assessment/ primary survey and understand the steps necessary to evaluate a client's condition
- B. Correctly identify body planes
- C. Create an emergency action plan for a specific situation
- D. Understand proper safety protocol as it relates to the sports medicine industry
- E. Identify and explain common infections and diseases that you may encounter in the workplace

### **V. ENVIRONMENTAL CONDITIONS**

- A. Differentiate between heat and cold weather conditions and their effects on the body during physical activity
- B. Explain the thermoregulation process
- C. List ways to treat various injuries related to extreme weather conditions

### **VI. INJURIES TO TISSUES**

- A. Understand the skin as an organ and its functions
- B. Identify main muscle groups in the body
- C. Describe the major functions of the reproductive system
- D. Understand the immune system
- E. Understand the PRICE procedure
- F. Explain the tissue response and inflammatory response to physical injury
- G. Understand, chart, and describe cells, their parts, and functions
- H. Describe different types of body tissue
- I. List major events involved in tissue repair
- J. Research major problem and diseases associated with body tissues such as arthritis, scurvy, vitamin deficiencies, and scars

### **VII. VITAL SIGNS AND BASIC LIFE SUPPORT**

- A. Understand the importance of CPR and AED
- B. Demonstrate proficiency by conducting a vital signs assessment

## COURSE OUTLINE

### KEY ASSIGNMENT I ANATOMICAL TERMINOLOGY & BASIC LIFE SUPPORT

#### VIII. TAPING AND WRAPPING-Integrated throughout sections 8-11

- A. Understand common taping and wrapping materials and their purpose and correct usage
- B. Take part in taping and wrapping for various injuries and purposes
- C. Understand the cost of materials and how to estimate amount needed

#### IX. THERAPEUTIC MODALITIES AND PHYSICAL REHABILITATION

- A. Understand various therapeutic modalities and their uses, contraindications, and effects
- B. Apply specific therapeutic modalities to situational examples

#### X. INJURIES TO THE HEAD AND SPINE

- A. Identify and understand the parts and functions of the spinal column
- B. Identify and understand the parts and functions of the brain and skull
- C. Identify and understand the parts and functions of the spinal column
- D. Research various common injuries and their treatments to the head and spine
- E. Understand the sympathetic and parasympathetic divisions of the autonomic nervous system
- F. Describe the reflex response

#### XI. INJURIES TO THE UPPER EXTREMITIES

- A. Identifying and understanding the parts and functions of the shoulder joint
- B. Identifying and understanding the parts and functions of the elbow joint
- C. Identifying and understanding the parts and functions of the wrist and hand
- D. Research various common injuries and their treatments to the upper extremities

#### XII. INJURIES TO THE CHEST AND ABDOMEN

- A. Understand common chest injuries and diseases common in the sports medicine industry
- B. Practice correctly identifying heart rate and understand what a normal heart rate is for various types of people
- C. Understand the effect of exercise and sports activity on respiration
- D. Understand the path of blood through the body during physical activity and the circulatory system as a whole

### KEY ASSIGNMENT II UPPER EXTREMITIES: HEAD/SPINE/TRUNK

#### XIII. INJURIES TO THE LOWER EXTREMITIES

- A. Identifying and understanding the parts and functions of the hip and pelvis
- B. Identifying and understanding the parts and functions of the knee joint
- C. Identifying and understanding the parts and functions of the ankle and foot
- D. Research various common injuries and their treatments to the lower extremities

#### XIV. PHYSICAL FITNESS ASSESSMENT

- A. Identify and understand the parts of the human heart
- B. Identify and understand the major parts of the respiratory system
- C. Identify and understand the main parts and functions of the urinary system
- D. Identify and understand the skeleton and location of bones
- E. Understand the relation of muscles to bones
- F. Research school sports and identify assessment tools needed
- G. Examine various personal habits to discover impact on health
- H. Create a personal plan for good health and nutrition
- I. Understand the process and steps involved in administering a fitness assessment and the analysis of data that will enable the creation of a personal fitness and nutrition plan

#### XV. NUTRITION AND WEIGHT

- A. Understand and properly navigate the government nutrition web site
- B. Define the major diseases and health problems related to improper weight and poor nutrition
- C. Identify and understand terminology related to nutrition and weight, including calorie, carbohydrate, sugar, protein, fat
- D. Estimate the caloric need of different clients/ athletes

## COURSE OUTLINE

- E. Identify and understand the functions of the major parts of the digestive system
- F. Research and identify food groups and food labels
- G. Understand the endocrine system, including the kidneys, their functions, and associated problems and diseases with improperly functioning kidneys

### XVI. PHARMACOLOGY

- A. Understand the process for bringing a new drug to market
- B. Explain how to identify important information on drugs including drug type, drug facts, benefits, actions, contraindications, side effects, generic and trade names
- C. Create and solve math problems related to dosing
- D. Convert Milligrams/Kilograms/Ounces/Pounds
- E. Understand the importance of military time in the medical industry
- F. Differentiate between viruses and bacteria

### KEY ASSIGNMENT III LOWER EXTREMITIES/ASSESSMENT/NUTRITION

- A. Lower Extremities Assignment
- B. Physical Fitness Assessment Assignment
- C. Nutrition and Weight Assignment

## PROJECT-BASED LEARNING

(NAME OF PROJECT) (PRESENTATION ON...)

- A. Research
- B. Outline
- C. First Draft
- D. Final Draft
- E. Presentation

## ESSENTIAL STANDARDS AND KEY ASSIGNMENTS

INDUSTRY SECTOR: Health Science and Medical Technology

### ESSENTIAL PATHWAY STANDARD - A1.0

Recognize the integrated systems approach to health care delivery services: prevention, diagnosis, pathology, and treatment

**KEY ASSIGNMENT**

### ESSENTIAL PATHWAY STANDARD - A2.0

Understand the basic structure and function of the human body and relate normal function to common disorders.

**KEY ASSIGNMENT**

### ESSENTIAL PATHWAY STANDARD – A3.0

Know the definition, spelling, pronunciation, and use of appropriate terminology in the health care setting.

**KEY ASSIGNMENT**

### ESSENTIAL PATHWAY STANDARD – A4.0

Communicate procedures and goals to patients using various communication strategies to respond to questions and concerns.

**KEY ASSIGNMENT**

### ESSENTIAL PATHWAY STANDARDS – A5.0

Implement wellness strategies for the prevention of injury and disease.

**KEY ASSIGNMENT**

**ESSENTIAL PATHWAY STANDARDS – A6.0**

Adhere to the roles and responsibilities, within the scope of practice, that contribute to the design and implementation of treatment planning.

**KEY ASSIGNMENT**

## STANDARDS FOR CAREER READY PRACTICE

**1. Apply appropriate technical skills and academic knowledge.** Career-ready individuals readily access and use the knowledge and skills acquired through experience and education. They make connections between abstract concepts with real-world applications and recognize the value of academic preparation for solving problems, communicating with others, calculating measures, and performing other work-related practices.

**2. Communicate clearly, effectively, and with reason.** Career-ready individuals communicate thoughts, ideas, and action plans with clarity, using written, verbal, electronic, and/or visual methods. They are skilled at interacting with others: they are active listeners who speak clearly and with purpose, and they are comfortable with terminology that is common to workplace environments. Career-ready individuals consider the audience for their communication and prepare accordingly to ensure the desired outcome.

**3. Develop an education and career plan aligned with personal goals.** Career-ready individuals take personal ownership of their educational and career goals and manage their individual plan to attain these goals. They recognize the value of each step in the educational and experiential process, and they understand that nearly all career paths require ongoing education and experience to adapt to practices, procedures, and expectations of an ever-changing work environment. They seek counselors, mentors, and other experts to assist in the planning and execution of education and career plans.

**4. Apply technology to enhance productivity.** Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They understand the inherent risks—personal and organizational—of technology applications, and they take actions to prevent or mitigate these risks.

**5. Utilize critical thinking to make sense of problems and persevere in solving them.** Career-ready individuals recognize problems in the workplace, understand the nature of the problems, and devise effective plans to solve the problems. They thoughtfully investigate the root cause of a problem prior to introducing solutions. They carefully consider options to solve a problem and, once agreed upon, follow through to ensure the problem is resolved.

**6. Practice personal health and understand financial literacy.** Career-ready individuals understand the relationship between personal health and workplace performance. They contribute to their personal well-being through a healthy diet, regular exercise, and mental health activities. Career-ready individuals also understand that financial literacy leads to a secure future that enables career success.

**7. Act as a responsible citizen in the workplace and the community.** Career-ready individuals understand the obligations and responsibilities of being a member of a community and demonstrate this understanding every day through their interactions with others. They are aware of the impacts of their decisions on others and the environment around them, and they think about the short-term and long-term consequences of their actions. They are reliable and consistent in going beyond minimum expectations and in participating in activities that serve the greater good.

**8. Model integrity, ethical leadership, and effective management.** Career-ready individuals consistently act in ways that align with personal and community-held ideals and principles. They employ ethical behaviors and actions that positively influence others. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and they recognize the short-term and long-term effects that management's actions and attitudes can have on productivity, morale, and organizational culture.

**9. Work productively in teams while integrating cultural and global competence.** Career-ready individuals contribute positively to every team, as both team leaders and team members. To avoid barriers to productive and positive interaction, they apply an awareness of cultural differences. They interact effectively and sensitively with all members of the team and find ways to increase the engagement and contribution of other members.

**10. Demonstrate creativity and innovation.** Career-ready individuals recommend ideas that solve problems in new and different ways and contribute to the improvement of the organization. They consider unconventional ideas and suggestions by others as solutions to issues, tasks, or problems. They discern which ideas and suggestions may have the greatest value. They seek new methods, practices, and ideas from a variety of sources and apply those ideas to their own workplace practices.

**11. Employ valid and reliable research strategies.** Career-ready individuals employ research practices to plan and carry out investigations, create solutions, and keep abreast of the most current findings related to workplace environments and practices. They use a reliable research process to search for new information and confirm the validity of sources when considering the use and adoption of external information or practices.

**12. Understand the environmental, social, and economic impacts of decisions.** Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact other people, organizations, the workplace, and the environment. They are aware of and utilize new technologies, understandings, procedures, and materials and adhere to regulations affecting the nature of their work. They are cognizant of impacts on the social condition, environment, workplace, and profitability of the organization.

**1: Academics**

Analyze and apply appropriate academic standards required for successful industry sector pathway completion leading to postsecondary education and employment. Refer to the industry sector alignment matrix for identification of standards. Note: alignment listed within each sector Anchor Standard

**2: Communications Language Standard**

Acquire and accurately use general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the (career and college) readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. LS 9-10, 11-12.6 Anchor Standard

**3: Career Planning and Management Speaking and Listening Standard**

Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data. SLS 11-12.2 Anchor Standard

**4: Technology Writing Standard**

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments and information. WS 11-12.6 Anchor Standard

**5: Problem Solving and Critical Thinking Writing Standard**

Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem, narrow or broaden the inquiry when appropriate, and synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. WS 11-12.7 Anchor Standard

**6: Health and Safety Reading Standards for Science and Technical Subjects**

Determine the meaning of symbols, key words, and other domain-specific words and phrases as they are used in a specific scientific or technical context. RSTS 9-10 11-12.4 Anchor Standard

**7: Responsibility and Flexibility Speaking and Listening Standard**

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners, building on others' ideas and expressing their own clearly and persuasively. SLS 9-10 11-12.1 Anchor Standard

**8: Ethics and Legal Responsibilities Speaking and Listening Standard**

Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the work. SLS 11-12.1d Anchor Standard

**9: Leadership and Teamwork Speaking and Listening Standard**

Work with peers to promote civil, democratic discussions and decision making; set clear goals and deadlines; and establish individual roles as needed. SLS 11-12.1b Anchor Standard

**10: Technical Knowledge and Skills Writing Standard**

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. WS 11-12.6 Anchor Standard

**11: Demonstration and Application**

Demonstrate and apply the knowledge and skills contained in the industry-sector anchor standards, pathway standards, and performance indicators in classroom, laboratory, and workplace settings, and the career technical student organization.