



Prepares Students for College and Careers

▲ Sports Medicine II (g)

COURSE CODES:

▲ ROP 63061 ▲ WUHSD 8068 ▲ ERUSD AT419A ▲ STATE (CALPADS) 7922

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

Approved Textbook/Curriculum:

POST-SECONDARY EDUCATION	INDUSTRY CERTIFICATIONS	EMPLOYMENT
Articulation with College No Dual Enrollment with College No UC Approved a-g elective credit Yes, g COLLEGE MAJORS Physical Therapy Kinesiology Physical Education Pharmacology Biochemistry	CPR NEXT STEPS Post-Secondary Education Internship	Related Careers (O*NET) 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

Prerequisites:

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

Course Description:

Sports Medicine II builds on the knowledge and skills gained through Sports Medicine I and prepares the student for entry-level employment or further post-secondary training in the field of Sports Medicine. Students acquire advanced practical concepts of training room development, risk management, administrative and legal issues, and prevention, care, and treatment of athletic injuries. Further knowledge and skills related to body conditioning, nutrition, use of protective equipment, and awareness of environmental issues are incorporated. On-the-field and off-the-field assessment, prevention, and treatment of acute and non-acute injuries following standard precautions build students' experience during practical application.

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
- E. Evening of Excellence Essay

II. SPORTS MEDICINE CAREERS

- A. Research and understand various occupations within the Sports Medicine industry sector
- B. Prepare a resumé, demonstrate a professional interview, and explore job search skills
- C. Discuss environmentally-sound practices and sustainability within the industry sector

III. ADVANCED FOUNDATIONS OF SPORTS MEDICINE

- A. Describe the standard operating procedures of an athletic training facility
- B. Discuss the current trends in sports
- C. Research desirable traits and qualities of an effective sports medicine team
- D. Understand the importance of professional associations

IV. ROLES AND RESPONSIBILITIES OF THE STUDENT ATHLETIC TRAINING AIDE

- A. Identify members of the sports medicine team and their roles
- B. Understand and follow rules of ethics, confidentiality, and liability considerations
- C. Identify and review organizational legal concerns occurring in the profession of sports medicine
- D. Explain the importance of the legal interaction between coaches, athletic trainers, and athletes
- E. Define legal concepts of liability, HIPPA, negligence, torts, and assumption of risk
- F. Discuss and apply measures to minimize the litigations in sports medicine and athletics
- G. Recognize elements involved in athletic equipment liability
- H. Examine insurance requirements that protect the athlete, trainer, and healthcare provider

V. ATHLETIC TRAINING ROOM MANAGEMENT

- A. Review how scope of practice, ethics, liability, and confidentiality affect the management of a training facility
- B. Describe a functional, well-designed athletic training facility
- C. Identify typical daily tasks required for each area of a training facility
- D. Identify policies and procedures that should be enforced in an athletic training room
- E. Explain basic budgetary concerns when ordering supplies and equipment

VI. INFECTION CYCLE AND HAZARDS

- A. Identify components of the infection cycle
- B. Understand methods of interrupting the infection cycle
- C. Identify appropriate personal protective equipment and devices
- D. State proper biohazard disposal protocols
- E. Demonstrate proper hand washing technique
- F. Demonstrate proper contaminated glove removal

VII. FIELD MANAGEMENT

- A. Identify supplies and equipment setups needed for various sports events
 - 1. Baseball/softball
 - 2. Basketball
 - 3. Swimming/diving
 - 4. Field hockey
 - 5. Football
 - 6. Gymnastics
 - 7. Racquet sports
 - 8. Soccer
 - 9. Track and field
 - 10. Weight lifting
 - 11. Triathlon

- B. Demonstrate sports specific athletic events preparation for various sports
 - 1. Review and discuss need for organizational skills and develop event checklists

VIII. EMERGENCY ACTION PLAN

- A. Identify the components of an effective emergency action plan
- B. Produce an emergency action plan procedural sheet
- C. Discuss how often emergency plans should be reviewed and practiced to maintain an efficient, calm response to emergencies

IX. INJURY EVALUATION PROCESS

- A. Describe the systematic evaluation technique
- B. Identify the importance of a bilateral comparison
- C. Demonstrate clinical evaluations following the HOPS process
- D. Demonstrate “on field” evaluations following the HOPS process
- E. Identify ROM, ligamentous and functional testing
- F. Discuss RTP and NRTP determining factors

X. ADVANCED ANATOMY AND PHYSIOLOGY

- A. Review principles of anatomy and physiology as studied Sports Medicine I
- B. Describe structure, role, and function of skeletal muscle (muscular system)
- C. Explain sliding-filament theory of a muscular contraction
- D. Describe structure and function of the motor unit
- E. Describe structure and role of the bones identified in the skeletal system
- F. Discuss the composition of connective tissues
- G. Explain electrical conduction system of motor nerves (nervous system)
- H. Describe the anatomical and physiological characteristics of the cardiovascular system
- I. Describe the electrical conduction system of the heart and the basic electrocardiogram
- J. Describe the mechanism that controls the circulation of blood throughout the body
- K. Describe the anatomical and physiological characteristics of the respiratory system
- L. Explain the exchange of gases and between blood and lungs
- M. Understand the mechanisms which control respiration

XI. KINESIOLOGY

- A. Explain the kinetic chain
- B. Define and discuss agonist and antagonist
- C. Identify methods used to determine muscle imbalances and procedures for correction
- D. Differentiate between normal and abnormal gait
- E. Identify corrective techniques

XII. PRINCIPLES IN EXERCISE PHYSIOLOGY

- A. Identify physiological effects associated with exercise
- B. Identify and implement SAID principle
- C. Identify cardiovascular changes, which describe aerobic versus anaerobic metabolism
- D. Identify cardiovascular changes which occur due to exercise
- E. Demonstrate techniques such as isometric, isotonic, and isokinetic strength exercises
- F. Understand progressive resistance exercises
- G. Identify normal VO₂ max and discuss ATP

XIII. BACTERIAL AND VIRAL CONDITIONS

- A. Identify various bacterial and viral infections commonly seen in sports medicine
- B. Discuss bacterial infections
- C. Identify signs and symptoms of bacterial infections
- D. Identify and demonstrate proper management of bacterial infections
- E. Cite techniques for preventing bacterial infections
- F. Discuss viral infections
- G. Identify signs and symptoms of viral infections
- H. Identify and demonstrate proper management of viral infections
- I. Cite techniques for preventing viral infections

XIV. ENDOCRINE DISORDERS

- A. Identify structures and functions of the endocrine system
- B. Describe endocrine conditions associated with sports
- C. Discuss and differentiate between type I and type II diabetes
- D. Recognize and identify signs and symptoms of diabetes
- E. Review proper management techniques for controlling diabetes
- F. Cite techniques to prevent diabetes

XV. SYSTEMIC DISEASES

- A. Identify and review systemic diseases
- B. Identify signs and symptoms of systemic diseases
- C. Review and demonstrate proper management of systemic diseases
- D. Cite techniques for preventing systemic diseases

XVI. NEUROLOGICAL DISORDERS

- A. Identify neurological disorders
- B. Discuss and identify signs and symptoms of neurological disorders
- C. Review and demonstrate proper management of neurological disorders
- D. Cite techniques for preventing neurological disorders

XVII. INTERNAL INJURIES

- A. Describe structure, role, and function of the thorax and abdominal area
- B. Explain anatomical implications of sports injuries to the thorax and abdomen
- C. Recognize, evaluate, and manage sports injuries to the thorax and abdomen
- D. Explain anatomical implications of sports injuries to the cardiopulmonary system
- E. Identify, evaluate, and manage sports injuries to the cardiopulmonary system
- F. Review norms for heart rate, blood pressure, and respiration
- G. Demonstrate proper techniques for assessing heart rate, blood pressure, and respirations

XVIII. IMAGING AND THERAPEUTIC MODALITIES

- A. Identify various body-imaging techniques used to view subcutaneous structures
- B. Compare and contrast the various imaging techniques
- C. Identify principles and demonstrate various techniques used during rehabilitation
- D. Discuss legal ramifications of treating athletes with therapeutic modalities
- E. Explain the relationship of most therapeutic modalities relative to electromagnetic energy
- F. Describe theoretical uses of various types of modalities
- G. Apply several varieties of modalities according to client needs
- H. Discuss physiological basis and therapeutic uses of electrical stimulating currents
- I. Describe how massage and intermittent compression can be used as therapeutic agents

XIX. REHABILITATION OF UPPER AND LOWER EXTREMITIES

- A. Describe the consequences of sudden inactivity and injury immobilization
- B. Explain the importance of early injury mobility
- C. Describe theoretical uses of various types of modalities related to extremity injuries
- D. Apply several varieties of modalities according to client injury
- E. Discuss physiological basis and therapeutic uses of electrical stimulating currents on upper and lower extremities
- F. Describe how massage and intermittent compression can be used as therapeutic agents on upper and lower extremity injuries

XX. PHARMACOLOGY

- A. Recognize different classes of drugs commonly used in sports medicine and their effects on the body
- B. Describe the major foundations of pharmacology and safety precautions that must be taken for legal reasons
- C. Delineate between prescription and nonprescription drugs
- D. Review the most common drug categories used in sports medicine, their active ingredients, and their effect on the body

XXI. PSYCHOLOGY

- A. Discuss physical and emotional stressors associated with sports participation and how they can become psychological stressors
- B. Explain aspects of overtraining that stem from major sports
- C. Identify the physiological responses to stress
- D. Relate how an athlete may respond psychologically to injuries or illnesses
- E. Review and apply protocols of the athletic trainer, coach, and physician when dealing with stressed athletes

XXII. ADVANCED TAPING AND WRAPPING

- A. Review basic taping and wrapping learned in Sports Medicine I
- B. Demonstrate knowledge of proper advanced taping procedures
- C. Apply advanced taping and wrapping techniques to field practice

XXIII. INJURY PREVENTION THROUGH FITNESS

- A. Discuss the relevance of the five recognized elements of fitness
- B. Discuss specific sports and identify their corresponding major conditioning seasons
- C. Following established standards during the proper season, identify appropriate exercises for each sport
- D. Identify principles of conditioning (fitness training) including: flexibility, strength, and cardio-respiratory endurance
- E. Understand the importance of both the warm up and cool down periods in sports training

XXIV. NUTRITION

- A. Review learned principles of weight gain, weight loss, nutrient functions, supplements, and eating disorders
- B. List six classes of nutrients and review their major functions
- C. Discuss relationship between good nutrition, diet, performance enhancement, and injury prevention
- D. Analyze main ingredients of a pre-activity meal
- E. Distinguish between body weight and body composition
- F. Recognize and discuss eating disorders
- G. Identify the pros and cons and legalities of nutritional supplements

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PROJECT-BASED LEARNING

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

- A.
- B.
- C.
- D.
- E.

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

CTE MODEL CURRICULUM 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.