

SPORTS MEDICINE AND ATHLETIC TRAINING (UC)**INDUSTRY SECTOR:** Health Science and Medical Technology Sector**PATHWAY:** Patient Care**CALPADS TITLE:** Advanced Patient Care (Capstone)**CALPADS CODE:** 7922**HOURS:**

Total	Classroom	Laboratory/CC/CVE
180	101	79

JOB TITLE	O*NET CODE	JOB TITLE	O*NET CODE
Physical Therapist Aides	31-2022.00	Physical Therapist Assistants	31-2021.00
Athletic Trainers	29-9091.00	Occupational Therapy Aides	31-2012.00

COURSE DESCRIPTION:

In this UC D-Science Lab approved CTE and science standards-based course, students will learn about the anatomy and physiology of the human body, the interaction of body systems, theories, and methods of prevention, evaluation, management and rehabilitation of sports and exercise-related injuries. Cellular structure and the body's chemical response to pharmaceutical agents, disease, injury, and stress will be addressed. Students will use scientific methods of observation, investigation, experimentation, data collection and data analysis. Laboratory and practicum work is performed both in and outside of the classroom. Students are provided substantial opportunities to practice and apply learned theories and techniques working with school athletes, athletic trainers, and other practicing professionals in the field after school hours.

A-G APPROVAL: D**ARTICULATION:**

College	Course Code
Irvine Valley College	KNES 85
Orange Coast College	KIN A273
Saddleback College	KNES 53

DUAL ENROLLMENT: None**PREREQUISITES:**

Prerequisite
Algebra
Chemistry (Recommended)
Anatomy & Physiology (Recommended)
Biology

METHODS OF INSTRUCTION

- Direct instruction
- Group and individual applied projects
- Multimedia
- Demonstration
- Field trips
- Guest speakers

STUDENT EVALUATION:

- Student projects
- Written work
- Exams
- Observation record of student performance
- Completion of assignment

INDUSTRY CERTIFICATION:

- AHA Basic Life Support for Healthcare Provider (CPR and AED) Certification

RECOMMENDED TEXTS:

- Hole's Anatomy - David Shier and Ricki Lewis
- Introduction to Sports Medicine and Athletic Training - Robert France

PROGRAM OF STUDY

Grade	Fall	Spring	Year	Course Type	Course Name
9, 10, 11, 12				Introductory	Introduction to Medical Careers
9, 10, 11, 12				Introductory	Medical Terminology
10, 11, 12				Concentrator	Emergency Medical Responder
11, 12				Capstone	Sports Medicine and Athletic Training (UC)

I.	INTRODUCTION AND ORIENTATION	CR	Lab/ CC	Standards
	• Demonstrate understanding of course objectives and competencies • Understand the course requirements and student expectations • Demonstrate awareness of the industry standards and career opportunities • Practice safety measures required for each sport played during the semester	3	0	Academic: WS: 11-12.2 CTE Anchor: Responsibility and Flexibility: 7.3, 7.4, 7.7 CTE Pathway: B12.2
II.	THE SPORTS MEDICINE INDUSTRY	CR	Lab/ CC	Standards
	• Understand the education and skill requirements of the sports medicine field and other health-related fields. • Demonstrate appropriate communication skills and strategies • Determine the scope of practice for athletic trainer aides and physical therapy aides • Understand patients' rights • Discuss ethical situations that may occur in health care • Define HIPAA guidelines and regulations regarding confidentiality and how it is interpreted in sports medicine • Describe liability issues in sports medicine	6	7	Academic: LS: 11-12.6 WS: 11-12.2b, 11-12.2 WHSST: 11-12.2 CTE Anchor: Communications: 2.3, 2.4 Ethics and Legal Responsibilities: 8.2, 8.3, 8.4 Technical Knowledge and Skills: 10.1, 10.2 CTE Pathway: B12.1, B12.3
III.	WORKPLACE SAFETY	CR	Lab/ CC	Standards
	• Exhibit an understanding of occupational safety issues and describe the policies, procedures, regulations, and agencies that govern workplace safety • Understand the importance of emergency preparedness and describe the elements of an emergency preparedness plan • Describe proper procedures for handling hazardous materials • Operate equipment safely so as not to endanger themselves or others. • Explain personal health and safety precautions in the workplace including universal precautions, stress management, and ergonomics	3	0	Academic: LS: 11-12.1 CTE Anchor: Health and Safety: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8 CTE Pathway: B10.1, B10.2, B10.3, B10.4, B10.5, B10.6, B10.7
IV.	FUNCTIONS OF THE APPENDICULAR AND AXIAL SKELETAL	CR	Lab/ CC	Standards
	Skeletal System • Identify and palpate the major bones and anatomical bony landmarks of the skeletal system • Describe and explain the organization and articulation of the major bones in the skeletal system • Describe the importance of bone articulation in relation to sports medicine Joints and Movement • Identify and palpate the major joints of the upper and lower limbs • Describe both the movement and function of the joints in the upper and lower limbs	10	15	Academic: LS: LS1.A, LS1, LS1.B, LS1.C, LS1.D CTE Anchor: Technical Knowledge and Skills: 10.1 CTE Pathway: B2.1, B2.2, B2.3, B2.4, B5.1, B5.4, B5.5, B5.6

	Muscular System • Identify the major skeletal muscles • Identify a muscles origin and insertion • Know the structures of a skeletal muscle and be able to describe the importance of striations • Describe the steps involved in muscle contraction • Explain the importance of ligaments and tendons and why their healing process is different than muscle			
V.	ANKLE, FOOT AND LOWER LEG	CR	Lab/ CC	Standards
	• Know and locate the major bones of the lower limbs • Identify the major muscles of the lower limbs • Identify the ligaments and tendons of the lower limbs Recognition of Mechanisms of Injury: • Identify the causes of sprains, strains, and fractures Prevention/Treatment • Understand and describe appropriate injury prevention techniques • Synthesize knowledge and information to evaluate, design and monitor appropriate care and rehabilitation	4	4	Academic: LS: LS1.D, LS1.C, LS1.A, LS1.B, LS1 CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.4, B2.3, B2.1, B7.1, B7.2
VI.	KNEE	CR	Lab/ CC	Standards
	• Know and locate the major bones that articulate at the knee • Identify the major muscles that originate and insert at the knee • Identify the ligaments and tendons involved in the function of the knee Recognition of Mechanisms of Injury: • Identify the causes of sprains, strains, and fractures Prevention/Treatment • Understand and describe appropriate injury prevention techniques • Synthesize knowledge and information to evaluate, design, and monitor appropriate care and rehabilitation	4	4	Academic: LS: LS1, LS1.B, LS1.A, LS1.C, LS1.D CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.1, B2.3, B2.4, B7.2, B7.1, B7.4
VII.	HIP AND THIGH	CR	Lab/ CC	Standards
	• Know and locate the major bones of the upper leg and pelvis regions • Identify the large muscles of the upper leg • Identify the ligaments and tendons of the upper leg and pelvis regions Recognition of Mechanisms of Injury: • Identify the causes of sprains, strains, and fractures Prevention/Treatment • Understand and describe appropriate injury prevention techniques • Synthesize knowledge and information to evaluate, design, and monitor appropriate care and rehabilitation	4	4	Academic: LS: LS1.D, LS1.C, LS1.B, LS1.A, LS1 CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.4, B2.3, B2.1, B7.1, B7.2, B7.4

VIII.	HEAD AND FACE	CR	Lab/ CC	Standards
	- Know the anatomy related to the head and face including: - Eyes - Ears - Nose - Throat - Brain - Demonstrate a systemic process for evaluating concussions and mild head injuries - Determine proper sideline and follow-up management of sport-related concussions - Discuss the value of neuropsychological tests in determining the state of recovery post-concussion - Understand and describe appropriate injury prevention techniques - Describe the mechanism of injury, signs, and symptoms, and appropriate treatment for the various injuries to the face, eyes, ear, nose, and throat	4	4	Academic: LS: LS1, LS1.A, LS1.C, LS1.B, LS1.D CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.1, B2.3, B2.4, B7.2, B7.4, B7.1
IX.	NECK AND BACK	CR	Lab/ CC	Standards
	- Know and locate the major bones of the neck and back - Identify the major muscles of the neck and back regions - Identify the ligaments and tendons involved in the function of the neck and back Recognition of Mechanisms of Injury: - Identify the causes of sprains, strains, and fractures Prevention/Treatment - Understand and describe appropriate injury prevention techniques - Synthesize knowledge and information to evaluate, design, and monitor appropriate care and rehabilitation	4	4	Academic: LS: LS1.D, LS1.C, LS1.A, LS1.B, LS1 CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.4, B2.3, B2.1, B7.1, B7.4
X.	SHOULDER	CR	Lab/ CC	Standards
	- Know and locate the major bones of the upper limbs and shoulders - Identify the major muscles of the upper limbs and shoulders - Identify the ligaments and tendons of the upper limbs and shoulders Recognition of Mechanisms of Injury: - Identify the causes of sprains, strains, and fractures Prevention/Treatment - Understand and describe appropriate injury prevention techniques - Synthesize knowledge and information to evaluate, design, and monitor appropriate care and rehabilitation	4	4	Academic: LS: LS1.A, LS1, LS1.B, LS1.C, LS1.D CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.1, B2.3, B7.2, B7.1, B7.4
XI.	FOREARM, ELBOW AND WRIST	CR	Lab/ CC	Standards
	- Know and locate the major bones that articulate at the elbow and wrist - Identify the major muscles that originate and insert at the elbow and wrist - Identify the ligaments and tendons involved in the function of the elbow and wrist Recognition of Mechanisms of Injury: - Identify the causes of sprains, strains, and fractures	4	4	Academic: LS: LS1.D, LS1.B, LS1.C, LS1, LS1.A CTE Anchor: Problem Solving and Critical Thinking: 5.3

	Prevention/Treatment • Understand and describe appropriate injury prevention techniques • Synthesize knowledge and information to evaluate, design, and monitor appropriate care and rehabilitation			Technical Knowledge and Skills: 10.1 CTE Pathway: B2.2, B2.1, B2.4, B7.2, B7.1, B7.4
XII.	EMERGENCY AND IMMEDIATE CARE	CR	Lab/CC	Standards
	• Attain certification in Cardiopulmonary Resuscitation (CPR) and demonstrate first aid skills • Interpret, differentiate and treat sprains, strains, and abrasions • Describe and demonstrate primary and secondary survey • Describe and demonstrate the procedures for immobilization, splinting and logrolling • Evaluate an athletic injury using a systematic approach such as History, Observation, Palpation, and Special Tests (HOPS) • Understand the importance of documenting injuries • Synthesize knowledge and information to identify and treat heat illnesses	4	4	Academic: LS: 11-12.1, 11-12.2, 11-12.6, LS1.B, LS1.A CTE Anchor: Technical Knowledge and Skills: 10.1, 10.5 CTE Pathway: B4.5, B4.1, B4.4, B7.2, B8.2, B8.3, B8.4, B9.1, B11.4
XIII.	THE INTEGUMENTARY SYSTEM	CR	Lab/CC	Standards
	• Identify and describe the importance of the integumentary system to maintaining homeostasis	4	4	Academic: LS: LS1.A, LS1.B, LS1.C, LS1, LS1.D CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.3, B2.4, B2.1, B7.1, B7.2
XIV.	THE NERVOUS SYSTEM	CR	Lab/CC	Standards
	• Identify the structures of the nervous system and know the importance of integration and coordination	4	4	Academic: LS: LS1.D, LS1, LS1.A, LS1.C, LS1.B CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.1, B2.4, B2.3, B7.2, B7.1
XV.	THE ENDOCRINE SYSTEM	CR	Lab/CC	Standards

	• Understand and explain the importance of hormone regulation • Identify and describe the effects of popular doping drugs with regard to the nervous, endocrine, and major muscle systems	4	4	Academic: LS: LS1.B, LS1.C, LS1.A, LS1, LS1.D CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.4, B2.3, B2.1, B7.1, B7.2, B7.4
XVI.	THE CARDIORESPIRATORY SYSTEM	CR	Lab/CC	Standards
	• List the anatomical components of the cardiorespiratory system • Explain how blood circulates through the body • Explain blood pressure and pulse • Define the different types of bleeding and their treatment • Describe the signs and symptoms and treatment of shock	4	4	Academic: LS: LS1.D, LS1.C, LS1, LS1.B, LS1.A CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.1, B2.3, B2.4, B7.2, B7.1, B7.4
XVII.	THE THORAX AND ABDOMEN	CR	Lab/CC	Standards
	• Understand the anatomy of the thorax and abdomen • Be familiar with techniques for assessing thoracic and abdominal injuries • Recognize injuries to the structures of the thorax and abdomen	4	4	Academic: LS: LS1.A, LS1.B, LS1, LS1.C, LS1.D CTE Anchor: Problem Solving and Critical Thinking: 5.3 Technical Knowledge and Skills: 10.1 CTE Pathway: B2.3, B2.4, B2.1, B7.1, B7.2, B7.4, B10.1
XVIII.	NUTRITION AND EXERCISE PHYSIOLOGY	CR	Lab/CC	Standards
	• Understand energy systems and the energy required for physical activity • Describe how energy requirements affect body composition and weight control	5	5	Academic: A-CED: 1 LS: LS1, LS1.B, LS1.C CTE Anchor: Problem Solving and Critical Thinking: 5.5, 5.6 Technical

				Knowledge and Skills: 10.1 CTE Pathway: B2.1, B3.1, B3.2, B4.4, B12.4
XIX.	EMPLOYMENT LITERACY	CR	Lab/CC	Standards
	- Identify available positions in the industry through the use of networking or the Internet - Complete an application form correctly - Prepare a written resume - Participate in a simulated employment interview - Prepare a portfolio - Research internship and externship opportunities	10	0	Academic: LS: 11-12.1, 11-12.2 WS: 11-12.4 CTE Anchor: Communications: 2.4 Career Planning and Management: 3.1, 3.2, 3.4, 3.5 CTE Pathway: B12.2, B12.1
XX.	PERSONAL SKILLS RELATED TO EMPLOYMENT	CR	Lab/CC	Standards
	- Demonstrate promptness and attend class regularly - Develop and maintain acceptable working relations - Demonstrate the ability to manage time wisely - Demonstrate a positive and cooperative attitude - Demonstrate values of honesty and integrity - Demonstrate respect for others - Dress in a professional manner according to industry standards - Demonstrate appropriate personal hygiene/grooming, and dress - Demonstrate responsibility by exerting a high level of effort and working toward a goal	3	0	Academic: LS: 11-12.1 CTE Anchor: Responsibility and Flexibility: 7.3, 7.7 CTE Pathway: B12.1, B12.2
XXI.	INTERPERSONAL SKILLS AND GROUP DYNAMICS	CR	Lab/CC	Standards
	- Demonstrate the ability to work as a member of a team - Identify proper procedures for handling harassment - Demonstrate leadership skills by working independently, making appropriate decisions, working well with others, and accepting constructive criticism - Demonstrate the ability to accept and work with individuals from various cultures	3	0	Academic: LS: 11-12.1 CTE Anchor: Problem Solving and Critical Thinking: 5.1, 5.2 Responsibility and Flexibility: 7.3, 7.7 Ethics and Legal Responsibilities: 8.2, 8.3, 8.4 CTE Pathway: B12.2, B12.1
XXII.	THINKING AND PROBLEM-SOLVING SKILLS	CR	Lab/CC	Standards
	- Utilize problem-solving techniques - Understand logical reasoning - Demonstrate creative thinking - Discuss decision-making - Demonstrate the ability to interpret information correctly	3	0	Academic: LS: 11-12.1 CTE Anchor: Problem Solving and Critical Thinking: 5.1, 5.2, 5.3 Leadership and Teamwork: 9.2,

				9.3 CTE Pathway: B12.1, B12.2, B13.5
XXIII.	COMMUNICATION SKILLS	CR	Lab/ CC	Standards
	• Demonstrate effective verbal and written skills • Read technical journals, and write technical reports using appropriate terminology • Listen attentively, follow directions, and relay directions to others • Demonstrate the ability to research and retrieve information	3	0	Academic: LS: 11-12.1, 11-12.2 RSIT: 11-12.7 CTE Anchor: Communications: 2.3, 2.7, 2.8 Technology: 4.1, 4.2, 4.3 CTE Pathway: B4.5, B5.1, B13.5