SAN LEANDRO UNIFIED SCHOOL DISTRICT
COURSE PROPOSAL: Course of Study
SECTION A. COVER PAGE

1. Course Title: Sports Medicine **If Title Change, Previous Title:**_____	**7. Action** **X** New Course ▢ Course Revision ▢ Title Change Only
2. Date Submitted:	**8. Grade Level**(s) X10 X11 X12
3. Transcript Title/Abbreviation(s)	**9. Prerequisites** (Please list.) ▢ Recommended ⇒ Algebra (C or higher) ⇒ Physiology (C or higher) ⇒ Chemistry (C or higher)
4. Transcript Course Code/Course Number :	**10. Seeking Program Distinction?** ▢ YES (Check one below.) **X** NO ▢Honors ▢ AP ▢Other
5. Subject Area: Science (BioHealth Pathway)	**11. Is this a CTE course?** ▢ YES **X** NO **If YES, complete Section C**
6. Department: Science (BioHealth Pathway)	**12. Previously approved by UC?** **X** YES ▢ NO ▢ NA for 6th-8th Year approved Year removed
13. UC ELIGIBILITY **Already eligible?** ▢ NA for 6th-8th **X YES** ▢**NO** **a** ▢ **b**▢ **c**▢ **d**▢ **e**▢ **f**▢ **g X** **Proposing eligibility?**▢ NA for 6th-8th **X YES** ▢**NO** **a** ▢ **b**▢ **c**▢ **d**▢ **e**▢ **f**▢ **g**▢ Please mark one for approved eligibility or proposed eligibility.	14. **Unit Value/Course Credit/Length of Course** ▢ 0.5 (semester or half-year **X** 1.0 (one year equivalent) ▢ 2.0 (two-year equivalent) ▢ Other
15. School Contact and Course Developer Name: Juanita Abundiz, Gaia Pine and Reginald Richardson Phone: 510-618-4600 Email: jabundiz@slusd.us, gpine@slusd.us, and regrichardson@slusd.us Position: Teacher/Curriculum Writer, Instructional Coach, Principal	
16. Approval Signatures: **Date:** Department Chair: Sarah Kayler	**DISTRICT OFFICE USE ONLY** **Date approved by Board Curriculum Committee** **1-24-18** **Date approved by Board**

SECTION B. COURSE CONTENT

17. Course Description

Sports Medicine course is a two (2) semester **Capstone** course for the BioHealth Pathway designed for students who are interested in fields such as athletic training, physical therapy, medicine, nurse, fitness, physiology of exercise, kinesiology, nutrition, EMT, and other sports medicine related fields. It is offered as a classroom and lab course to provide students with an avenue through which to explore these fields of study. This course focuses on the basic information and skills important in the recognition of, care, prevention, and preliminary rehabilitation of athletic injuries. The course includes class work and hands on application. This course provides an opportunity for the study and application of the components of sports medicine including but not limited to: sports medicine related careers, organizational and administrative considerations, prevention of athletic injuries, recognition, evaluation, and immediate care of athletic injuries, rehabilitation and management skills, taping and wrapping techniques, First Aid/CPR certification, emergency procedures, nutrition, sports psychology, human anatomy and physiology, therapeutic modalities, and therapeutic exercise.

18. Course Goals and/or Major Student Outcomes

Students will be able to …

- identify sports medicine related professions and recognize the correlations of this course to possible future career choices.
- demonstrate an understanding of the laws and legislation related to allied health and medical practices.
- define sports medicine related terminology.
- identify possible emergency situations that may occur in sports and how to prepare for emergency situations.
- complete a First Aid course to obtain certification
- complete a CPR course to obtain certification.
- demonstrate an understanding of basic human anatomy including major muscles, bones, tendons, and ligaments.
- recognize the many factors that contribute to injury prevention including physical condition, protective equipment, playing environment, and rules.
- demonstrate an understanding of the physiological effects of trauma to the body.
- identify the common causes, signs and symptoms, and treatment of frequently occurring sports related injuries.
- identify the basic principles of rehabilitation.
- understand how modalities affect pain and healing
- identify the components of proper nutrition and the relationship to athletic performance

19. Course Objectives (standards)

***Common Core State Standards Connections:* ELA/Literacy -**

RST.11-12.1	Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. (HS-LS1-1)
RST.11-12.9	Synthesize information from a range of sources into a coherent understanding of a process, phenomenon, or concept resolving conflicting information when possible.
WHST.9-12.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. (HS-LS1-1)
WHST.9-12.7	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; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. (HS-LS1-3)
WHST.11-12.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. *(HS-LS1-3)*
WHST.9-12.9	Draw evidence from informational texts to support analysis, reflection, and research. (HS-LS1-1)
SL.11-12.5	Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. *(HS-LS1-2)*

Next Generation Science Standards –

LS.1 Crosscutting Concepts Structure and Function

Investigating or designing new systems or structures requires a detailed examination of the properties of different materials, the structures of different components, and connections of components to reveal its function and/or solve a problem

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.

HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.

CTE - Health Science and Medical Technology Standards –

CTE.HSMT.FS.6.2 Understand critical elements for health and safety practices related to storing, cleaning, and maintaining tools, equipment, and supplies.

CTE.HSMT.FS.6.5 Understand the rules and regulations of the Occupational Safety and Health Administration and the Centers for Disease Control and Prevention.

CTE.HSMT.FS.6.3 Understand the importance and use of Standard Precautions and Infection Control, as appropriate.

CTE.HSMT.FS.9.3 Understand how to organize and structure work individually and in teams for effective performance and attainment of goals.

CTE.HSMT.FS.9.1 Understand the characteristics and benefits of teamwork, leadership, and citizenship in the school, community, and workplace settings.

CTE.HSMT.FS.4.5 Know how to interpret technical materials and medical instrumentation used for health care practices and policies.

CTE.HSMT.FS.10.5 Understand the nature of the interdependency of health care professionals within a given health care delivery system.

CTE.HSMT.FS.10.6 Know cardiopulmonary resuscitation and first-aid practices.

CTE.HSMT.FS.10.8 Understand the interconnected components of a health care system.

CTE.HSMT.FS.8.5 Understand and maintain the Patients' Bill of Rights, patients' and clients' confidentiality, and the Health Insurance Portability and Accountability Act of 1996.

CTE.HSMT.FS.8.1 Know major local, district, state, and federal regulatory agencies and entities that affect industry and how they enforce laws and regulations.

CTE.HSMT.FS.3.5 Understand the past, present, and future trends that affect careers, such as technological developments and societal trends, and the resulting need for lifelong learning.

CTE.HSMT.FS.3.1 Know the personal qualifications, interests, aptitudes, knowledge, and skills necessary to succeed in careers.

CTE.HSMT.FS.3.6 Know key strategies for self-promotion in the hiring process, such as job applications, résumé writing, interviewing skills, and portfolio preparation.

CTE.HSMT.FS.3.3 Develop a career plan that is designed to reflect career interests, pathways, and postsecondary options.

CTE.HSMT.FS.3.2 Understand the scope of career opportunities and know the requirements for education, training, and licensure.

CTE.HSMT.FS.7.3 Understand the need to adapt to varied roles and responsibilities.

CTE.HSMT.FS.7.4 Understand that individual actions can affect the larger community.

CTE.HSMT.FS.7.7 Understand and demonstrate methods for promoting health and wellness.

CTE.HSMT.FS.5.3 Use critical thinking skills to make informed decisions and solve problems.

CTE.HSMT.FS.5.2 Understand the universal, systematic problem solving model that incorporates input, process, outcome, and feedback components.

CTE.HSMT.FS.5.4 Examine multiple options for completing work tasks by applying appropriate problem-solving strategies and critical thinking skills to work-related issues.

CTE.HSMT.FS.5.1 Apply appropriate problem-solving strategies and critical thinking skills to work-related issues and tasks.

CTE.HSMT.E.E5.2 Understand the process for revising or creating modifications to treatment plans on the basis of information gathered.

CTE.HSMT.E.E5.1 Use the appropriate evaluation tools to assess patients and clients.

CTE.HSMT.E.E2.2 Use medical terminology appropriate to therapeutic services to interpret and communicate procedures and observations.

CTE.HSMT.E.E1.3 Use appropriate responses to the health care needs of patients and clients.

CTE.HSMT.E.E3.4 Use equipment and instruments in accordance with manufacturers' guidelines and accepted safety practices.

CTE.HSMT.E.E3.1 Understand the roles and responsibilities, within their scope of practice, that contribute to the design and implementation of a treatment plan.

CTE.HSMT.E.E3.3 Determine the availability of resources for the effective implementation of treatment plans for patients and clients.

CTE.HSMT.E.E3.5 Know the process for the documentation of actions in accordance with facility protocol and regulatory guidelines.

CTE.HSMT.E.E4.3 Know the process for assessing patients' and clients' responses to administered treatments and procedures.

CTE.HSMT.E.E4.2 Understand the process for reporting patients' and clients' responses to administered treatments and procedures.

CTE.HSMT.E.E4.1 Understand the process for monitoring patients' and clients' responses to administered treatments and procedures.

CTE.HSMT.D.D2.1 Know how to evaluate potential causes and methods of transmitting infections and how to apply standard precautionary guidelines.

CTE.HSMT.D.D3.5 Know the components of a comprehensive training program for health care, including safety, infection control, handling of hazardous materials, and use of equipment.

CTE.HSMT.D.D3.1 Know the procedures and processes for the selection, acquisition, distribution, and maintenance of equipment and understand preventive maintenance for buildings and equipment.

CTE.HSMT.B.B1.2 Use medical terminology appropriate to diagnostic services to interpret, transcribe, and communicate information and observations.

CTE.HSMT.B.B2.2 Know the process for evaluating and appraising the appropriateness of information.

CTE.HSMT.B.B3.1 Know the process for assessing the health status of patients and clients.

CTE.HSMT.B.B3.6 Use proper body mechanics, ergonomics, safety equipment, and techniques to prevent personal injury to patients and clients.

CTE.HSMT.B.B5.2 Use appropriate protocol after assessing patients, clients, and resources.

20. Course Outline (36 weeks – 2 semesters)

***Note: Labs, activities and projects listed are suggestions for student engagement with curriculum taught. Not all need to be covered but may be selected based on timing and what is appropriate to enhance learning.*

Semester 1

Unit 1: Introduction to Sports Medicine
Duration: 2.5 weeks
Description: This introductory unit will focus on defining what sports medicine covers in terms of the components, personnel, and terminology in addition to athletic training. Students will start learning the basic procedures and treatment for sports related injuries.

Lecture/Classwork Topics	Laboratory, Activities and Projects
1. Components of a Sports Medicine Program and Athletic Training 2. Sports medicine team	1. **Student Presentation**: Sports medicine career research and presentation

3. Medical Terminology 4. Introduction to basic injury treatment and taping procedures 5. Legal and Ethical Issues in Sports Medicine (Practice Laws, Good Samaritan Law, Privacy Act within HIPAA and FERPA regulations)	2. **Field Trip**: Tour of school athletic facilities 3. **Lab**: **Terminology Practice** – Students will use human and animals models to practice positions, directions, planes, and body regional terms

Unit 2: Athletic Treatment Protocol
Duration: 1.5 weeks
Description: In this unit, students will learn the treatment protocol and procedures necessary in order to prevent injury including the proper use of sports medicine supplies and equipment. They will also learn ways to prevent disease transmission while providing care.

Lecture/Classwork Topics	Laboratory, Activities and Projects
1. Athletic Treatment Center protocol and procedures 2. Safety (blood-borne pathogens, sanitation, hazardous waste disposal, OSHA standards, components of exposure plan) 3. Sport medicine supplies and equipment	1. **Lab**: **MRSA Transmission –** Students will use an online simulation activity to explore disease transmission in an athletic facility 2. **Lab**: **Safety** – Students will practice basic wound care, proper hand washing and safety equipment usage (gloves, goggles, mask, etc.) 3. **Activity**: Design a model of a cell that is being attacked by a pathogen 4. **Debate**: Determine if a student that has tested HIV positive should be allowed to participate in the school's wrestling program 5. **Letter**: Compose an evidence based letter to the school board stating opinion regarding a school athlete that has tested HIV positive.

Unit 3: Emergency Procedures
Duration: 4 weeks
Description: In this unit, students will learn the basic care for injuries and sudden illness prior to the arrival of more medical personnel.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Cardiovascular and Respiratory system overview 2. Introduction to CPR 3. Introduction to First Aid 4. Vital signs assessment 5. Steps in planning for athletic emergencies	1. **Activity**: **Emergency Action Plan** - Students must read the NATA position statement on emergency planning and design an emergency plan for the sport of their choice at SLHS. The plan should include jobs

6. Emergency situations 7. Emergency equipment 8. Head and Neck Injuries 9. Heat-related illness (heat stroke, heat exhaustion, hypothermia)	for each person responding to the emergency 2. **Lab**: **Blood Pressure and Pulse** – Students will use a sphygmomanometer and stethoscope to practice taking blood pressure manually. Pulse will be measure manually by carotid or radial artery. 3. **Lab**: **Vital Signs** - Students will evaluate six of the nine vital signs: pulse, blood pressure, respiration rate, temperature, pupil response, and level of consciousness. Data is compiled and compared to statistical norms for adult and adolescent populations. Students also analyze what conditions should be suspected when a particular abnormal vital sign is assessed 4. **Lab**: **Injury First Aid** – Students will work in pairs to practice assessing and treating a "mock" possible wrist fracture using a splint, swing, and swath and following the first aid steps. 5. **Lab: PRICES** – Students will follow the PRICES protocol is attending to a student who has fallen during a game basketball game and is in pain. 6. **Group Project**: Have teams design a first aid kit and list all the necessary components then present them to the other teams with rationale. At end have all teams compile a master list of key essentials. 7. **Practice**: Assessment of patient and use of backboard 8. **Student Presentations**: Specific injuries to the spine (cause, signs and care) 9. **Debate**: Support or defend the issue of practicing during extreme temperatures. 10. **Field Trip or Guest Speaker**: Have mobile EMT van come and give students a tour.

Unit 4: Athletic Injuries
Duration: 3 weeks
Description: In this unit, students will understand how to manage a variety of common athletic injuries and how to analyze, assess, and react to several crisis situations with regards to injury.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Body reaction to injuries 2. Acute vs. chronic injuries 3. Types of sports injuries 4. Injury evaluation procedures (HOPS) 5. Basic injury treatments (RICES) 6. Tapping and wrapping procedures	1. **Project**: Develop a rehabilitation protocol for a specific sport related injury. Include the following: a. Athlete Profile b. Explanation of injury c. Rehabilitation program 2. **Presentation**: Teach classmates about the injury and rehabilitation protocol. Demonstrate the exercises used for rehabilitation of the specific injury. 3. **Lab: Bandaging –** Students will practice preventive bandaging techniques 4. **Project**: Compose an easy-to understand set of instructions for one of the taping procedures 5. **Activity**: Trade directions and critique readability and ease of understanding for classmate's projects 6. **Lab: Tapping –** Students will practice preventive taping techniques

Unit 5: Anatomy of Specific Sports Injuries
Duration: 6 weeks
Description: In this unit students will learn the components of the skeletal and muscular system in relation to the following key body areas that are the focal point of common sports related injuries. Students will also learn the role the central and peripheral nervous system play in controlling these body systems.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Skeletal System Components – Investigation of axial and appendicular bones, joint classification types, articular cartilage, bursa, and ligaments. Fractures, bursitis, arthritis, and dislocations will also be covered. 2. Muscular System Components: Investigation of types of skeletal	1. **Lab**: **Bone Identification –** Students will use bones form a disarticulated skeleton and determine their name, side on body, types, and joints. They will use a fully articulated skeleton for comparison. 2. **Lab**: **Fractures** – Students will examine X-rays to determine bone,

muscle tissue (type 1, type 2a, type 2b), types of contractions (isometric and isotonic – concentric vs. eccentric), tendon's origins and insertions, movements (flexion, extension, hyperextension, abduction, adduction, circumduction, pronation, supination, inversion, eversion, dorsiflexion, plantar flexion, elevation, depression, opposition, protraction, retraction), fascia, dynamics of gait, and major muscle groups. Common muscle injuries (sprains, strains, fasciitis, etc.) will be covered. 3. Nervous System Components: CNS and PNS role in muscular control, sensation, and the physiology nociception and psychology of pain. 4. Tissues: degrees of soft tissue damage, three phases of soft tissue healing process 5. Evaluation of Injuries for Specific Body Regions: a. Foot/Ankle/Lower Leg b. Knee/Thigh c. Trunk d. Internal Abdominal/Thoracic e. Shoulder f. Elbow/Wrist/Hand	fracture type, location and possible treatment methods 3. **Lab: Bone Strength** – Students will model and demonstrate components of the stress-strain curve in bone strength using physics properties 4. **Lab**: **Muscle Action –** Students will practice exercises and record all the muscles used, the action each performs, assess the range of motion, and where the origin and insertion for each muscle is. 5. **Lab**: **Analyzing Gait** – Students will use butcher paper to measure and analyze their gait 6. **Activity**: Create a game to teach others the anatomy of the foot 7. **Practice**: Assessment of patient with a specific foot injury 8. **Student Presentations**: Specific injuries to the foot (cause, signs and care) 9. **Activity**: Coloring book page to learn the anatomy of the ankle and low leg 10. **Practice**: Assessment of patient with a specific ankle or low leg injury 11. **Student Presentations**: Specific injuries to the ankle and low leg (cause, signs and care) 12. **Activity**: Create a poster for a specific knee injury. Include the anatomy, cause, signs and care for the injury 13. **Practice**: Perform assessment techniques used to identify a specific knee injury 14. **Lab**: **Knee Model** - Use engineering practices to build a model knee using given supplies 15. **Practice**: Assessment of patient with a specific elbow, forearm, wrist and hand injuries 16. **Student Presentations**: Specific injuries to the elbow, forearm, wrist and hand (cause, signs and care)

	17. **Case Study Activity**: Find a case study for an athlete that has sustained a thigh, hip, groin or pelvis injury. Write a synopsis of cause, signs and care. 18. **Student Presentations**: Case study presentation including relevant anatomy 19. **Practice**: Assessment of patient with a specific shoulder injury 20. **Student Presentations**: Specific injuries to the shoulder (cause, signs and care) 21. **Written Assessment**: Scenario-based specific injury identification 22. **Activity**: Each student will be given a structure from the chest/thorax/ abdominal region to teach the class 23. **Lab**: **Sheep Heart Dissection** – Students will dissect a sheep heart and investigate how structure relates to function 24. **Game**: Matching form and function of chest/thorax/abdominal structures 25. **Practice**: Assessment of patient with a specific chest/thorax/abdominal injury 26. **Student Presentations**: Specific injuries to the chest, thorax and/or abdomen (cause, signs and care) 27. **Activity**: Create a game to teach others the anatomy of the face 28. **Lab**: **Sheep Brain Dissection** – Students will dissection the brain to investigate how structure relates to function. 29. **Venn diagram**: Compare and contrast three different pieces of sports equipment used to protect the head and face 30. **Student Presentations**: Specific injuries to the head and face (cause, signs and care) 31. **Movie Activity**: NFL Concussion

	32. **Movie Reaction Paper**: Evaluate the Concussion movie and the impact of CTE Brain Degeneration.

Unit 6: Field Experience 1
Duration: 1 week (5 hours minimum)
Description: This is the first of TWO (2) observations in the field as part of the capstone project. Students will shadow a sports medicine professional and observe in the appropriate environment. This project is designed to provide students with a better understanding of the Sports Medicine profession and to give students an opportunity to observe many of the topics discussed in class. This first one can be either on-campus or off campus.

Lecture/Classwork Topics	Laboratory, Activities and Projects
1. Observe procedures and assist in the following sports medicine settings: ⇒ Athletic training (high school, college, clinical) ⇒ Physical therapy (outpatient, inpatient, sports medicine) ⇒ Medicine (Specialties including: orthopedics, pediatrics, family practice, ophthalmology, otolaryngology, radiology, pathology, and others by request) ⇒ Fitness (fitness centers, health clubs, etc.) ⇒ Emergency medicine (emergency room, ambulance) ⇒ Anatomy (observe autopsies by county coroner) ⇒ Chiropractic ⇒ Other specialties by request	1. **Lab**: Observe, assist, and record 2. **Written Summary**: Typed summary of experience with attached brochure or other information for off site facilities. 3. **Professional Interview**: Conduct a short interview with the sports medicine professional with pre-determined, appropriate questions approved by the instructor

Unit 7: Sports Medicine Careers and Profession Preparation
Duration: 2 weeks
Description: This unit will focus on having students explore careers in depth and developing the resume, portfolio, job search and interview skills. It will also cover liability and disqualifying conditions for athletes.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. History of Sports Medicine 2. Sports medicine related careers 3. Investigation of specific sports medicine careers of interest	1. **Activity**: List and describe the various career options, including educational requirements in the sports medicine field. 2. **Activity**: List and describe the

4. Types of liability concerns and prevention 5. Disqualifying conditions for athletes and pre-participation exams	professional organizations and associations of various sports medical professions. 3. **Activity**: Demonstrate leadership abilities in the field of sports medicine through work with local organizations 4. **Activity**: Demonstrate job search methods in the health care fields 5. **Write**: Demonstrate how to write an effective resume 6. **Mock Interview**: Demonstrates composure and effective communication skills in a mock job interview. 7. **Activity**: List and describe the several issues relating to various sports medicine professions and how these issues impact each profession. 8. **Activity**: Develop a sports medicine portfolio that includes a resume, cover letter, a listing of school and sports medicine experiences, self-reflections, and other items. This may also include a digital portfolio

Semester 2

Unit 8: Advanced Procedures in Athletic Emergencies
Duration: 2.5 weeks
Description: This unit does into depth on the key athletic emergency procedures and includes certification in CPR and First Aid.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Review for CPR and First AID certification 2. Introduce advanced procedures in emergency care: a. vital signs b. planning for emergencies/equipment c. care of head/cervical spine injuries d. environmental illness	1. **Lab**: **CPR certification** – Students will train and certify for CPR with a certified instructor 2. **Lab**: **First Aid certification** – Students will train and certify for First Aid with a certified instructor 3. **Lab**: **Advanced Vital Signs** - Students evaluate six of the nine vital signs: pulse, blood pressure, respiration rate, temperature, pupil response, and level of consciousness

	for various scenarios and determine response protocol.

Unit 9: Protective Equipment
Duration: 1.5 weeks
Description: This unit looks at how equipment should be properly used in various sports in order to prevent injury.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Proper fit, care, and usage of sports protective equipment 2. Types and Functions of protective equipment 3. Legal considerations associated with manufacturing, buying, and issuing commercial protective equipment	1. **Project**: Explain the type of equipment used in a specific sport. Identify the proper fit and injuries the equipment prevents. Analyze typical injuries in the sport. Identify areas for potential improvement of current safety equipment 2. **Lab**: Design and make custom protective equipment 3. **Optional Guest Speaker/Virtual Field Trip** – professional sports personnel demonstration of protective equipment for sport

Unit 10: Therapeutic Modalities
Duration: 1.5 weeks
Description: This unit covers the main modalities used to treat injuries and how and when to use them effectively.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Describe and demonstrate the physiological effects, indications/contraindications of use of the following modalities: a. ice b. heat c. hydrotherapy d. electrical stimulation e. ultrasound f. massage g. miscellaneous modalities	1. **Lab**: **Modalities** - Students will experience and compare using different modalities as they rotate through modality stations 2. **Lab**: **Cold vs. Warm** – Students Ice and heat for pain control 3. **Optional Field Trip or Guest Speaker**: Physical Therapy Clinic

Unit 11: Rehabilitation of Injuries
Duration: 3 weeks
Description: This unit focuses on the rehabilitation process post-injury by examining exercises, stretching, joint mobilization, and other techniques in order to help the athlete return to play.

Lecture/Classwork Topics	Laboratory, Activities, and Projects

1. Goals and objectives of various types of rehabilitation programs and how to evaluate an athlete's progress in a program. 2. Various types of exercises and their functions in a rehabilitation program. 3. Use of range of motion, strengthening, and proprioceptive exercises in a rehabilitation program for all major areas of the body. 4. Special rehabilitation techniques such as proprioceptive neuromuscular facilitation, joint mobilization, etc. 5. Developing a functional return to play criteria	1. **Project**: Develop a rehabilitation protocol for a specific sport related injury. Include the following: a. Athlete Profile b. Explanation of injury c. Rehabilitation program 2. **Presentation**: Teach classmates about the injury and rehabilitation protocol. Demonstrate the exercises used for rehabilitation of the specific injury. 3. **Lab**: Practice preventive bandaging techniques 4. **Project**: Compose an easy-to understand set of instructions for one of the taping procedures 5. **Activity**: Trade directions and critique readability and ease of understanding for classmates projects 6. **Lab**: Practice preventive taping techniques

Unit 12: Sports Psychology
Duration: 1.5 weeks
Description: This unit looks at the psychology of dealing with injury and the how to identify and support athletes suffering from various emotional responses.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Psychological methods to help athletes cope with injuries. 2. Psychological methods to help athletes prepare for competition	1. **Project**: Research community resources that can be used for intervention for students and design a brochure or online webpage with pertinent information for students to access with specific areas of expertise. 2. **Survey**: Design a survey in Google forms to collect data from athletes to assess their personal techniques for mental preparation prior to competition. 3. **Group Discussion**: Students share techniques collected and discuss effectiveness 4. **Research Activity**: Biological foundations of behavior

Unit 13: Physiology of Exercise/Fitness for Sports
Duration: 4 weeks
Description: This unit will focus on the principles of effective training for a specific sport or fitness goal.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Training and conditioning techniques 2. Major conditioning seasons and the types of exercise that are performed in each season 3. Importance of the warm-up and cool-down periods 4. Measuring fitness with body fat testing, strength/conditioning tests, and flexibility tests. 5. Principles and procedures of strength training, flexibility, cardiovascular conditioning (aerobic/anaerobic), and proprioception. 6. Setting up an individual on a program for injury prevention or general fitness enhancement.	1. **Project**: Design a workout program for a specific sport using each of the following techniques/principles: dynamic, static, and PNF stretching; PREs, isometric, isotonic, core stability and proprioception exercises. 2. **Project**: Design a workout for a hypothetical scenario. 3. **Socratic seminar**: Research examples of how technology has helped to motivate people to exercise and present for a Socratic seminar. 4. **Group Activity**: Perform and teach stretching techniques developed to increase flexibility 5. **Group Activity**: Perform and teach progressive resistance exercises developed to increase strength 6. **Lab**: Design a circuit training workout 7. **Lab**: Develop five callisthenic exercises for three parts of the body 8. **Project**: Develop an annual, sport specific training program that includes the four seasons of conditioning. Design daily practice plans for each season. 9. **Group Project**: Create a five-minute informational video segment instructing peers about a specific muscle group and targeted exercises. 10. **Writing Assignment**: Evaluate the local fitness options available to you in the local community 11. **Lab**: Personal Fitness Assessment

Unit 14: Sports Nutrition, Supplementation and Substance Abuse
Duration: 3 weeks
Description: This unit focuses on the important of nutrition for overall health and physical activity. It will also cover eating disorders and their identification in addition

to usage of performance enhancing drugs, their side-effects, testing and legal implications.

Lecture/Classwork Topics	Laboratory, Activities, and Projects
1. Six Major nutrient classes and their functions: fats, proteins, carbohydrates, vitamins, minerals, water 2. Importance of good nutrition as it relates to athletic performance and preventing injuries 3. Components of a pre-event meal 4. How to safely lose or gain weight 5. Signs, symptoms and treatment of various eating disorders 6. Identify the physiological and psychological effects of performance enhancing drugs. 7. Effects and side effects of anabolic steroids. 8. Drug testing procedures 9. Types and functions of various prescription and over-the-counter drugs used in sports medicine	1. **Group Presentation**: Teach classmates the sources and importance of one of the six classes of nutrients 2. **Project**: Record all substances that are ingested over a three-day period. Analyze and critique diet. Create a diet improvement plan and analyze feasibility. 3. **Lab**: Study food labels and identify what information is important for people involved in different athletic activities 4. **Project**: Create an appropriate pre-game meal for a specific sport (endurance vs. non endurance). 5. **Project**: Create a poster that compares and contrasts sports drinks and water. Identify the beverage of choice for athletes in a specific sport 6. **Movie**: “Super Size Me” 7. **Reaction Paper**: Evaluate the movie and the impact of the experiment on the average American. 8. **Project**: Student will design a method of educating their peers about nutrition. 9. **Class Discussion**: Create a Venn diagram that compares bulimia and anorexia nervosa. Discuss possible causes of eating disorders among high school students. 10. **Lab**: Students perform urinalysis testing on normal and abnormal simulated urine specimens and determine probable disorders and/or drugs 11. **Project**: Create an educational brochure for athletes on banned substances from the IOC and the NCAA. 12. **Poster Project**: Create a warning poster for a specific performance

	enhancing drug. Include the types, uses, effects, and dangers associated with use. 13. **Debate**: Debate the use of performance enhancing drugs by professional athletes 14. **Case Study Activity**: Find a case study for an athlete that has used PEDs. Write a synopsis of testing, side effects, and dangers.

Unit 15: Field Experience 2
Duration: 1 week (5 hour minimum)
Description: This is the second of TWO (2) observations in the field as part of the capstone project. Students will shadow a sports medicine professional and observe in the appropriate environment. This project is designed to provide students with a better understanding of the Sports Medicine profession and to give students an opportunity to observe many of the topics discussed in class. This second one can be either on-campus or off campus but must be different from the first.

Lecture/Classwork Topics	Laboratory Activities and Projects
1. Observe procedures and assist in the following sports medicine settings: ⇒ Athletic training (high school, college, clinical) ⇒ Physical therapy (outpatient, inpatient, sports medicine) ⇒ Medicine (Specialties including: orthopedics, pediatrics, family practice, ophthalmology, otolaryngology, radiology, pathology, and others by request) ⇒ Fitness (fitness centers, health clubs, etc.) ⇒ Emergency medicine (emergency room, ambulance) ⇒ Anatomy (observe autopsies by county coroner) ⇒ Chiropractic ⇒ Other specialties by request	1. **Capstone Project:** Guidelines being developed in accordance with pathway criteria.

21. Instructional Materials:

Board approved required text: Looking for Textbooks – a few considerations

1. Principles of Athletic Training, 14th edition – William E. Prentice, McGraw-Hill

2. Foundations of Athletic Training Marcia K. Anderson, Gail P. Parr, Susan J. Hall Lippincott Williams & Wilkins 4th Edition
3. Manual of Structural Kinesiology R. T. Floyd McGraw-Hill 17th Edition
4. Fundamentals of Sports Injury Management, 2nd edition (2003)- Marcia K. Anderson
5. Sports Medicine Essentials: Core Concepts in Athletic Training & Fitness Instruction 3rd Edition Author: Jim Clover Copyright: 2016 Publisher: Cengage Learning

Supplementary materials

a. Medical Documentaries
b. Chromebooks
c. Internet Resources (virtual labs, tutorials, instructional video clips/animations, etc.)
d. Guest speakers
e. Field trips
f. Community partners (for field experience)

22. Instructional Methods and/or Strategies (Key Assignments)

Key Assignments

1. **Labs** will be inquiry based or practical based in order for students to learn a specific skill such as proper preventative tapping or CPR certification.

2. **Activities** will utilize the CER model in having students investigate techniques, procedures, or protocol is sports medicine.

3. **Debates** can be standard format or use either the AVID method of Philosophical Chairs or Socratic seminars.

4. **Projects** will be in two distinct categories: STEM and PBL and research/presentation based. Both will prompt student inquiry and autonomy in directing their own learning by delving deeper into key areas of need and either engineering solutions or analyzing know findings while hypothesizing some of their own. Emphasis in these projects will be on developing good research skills, evaluating and citing sources, and clearly and succinctly presenting ideas.

General Approach to Instruction

1. The purpose of this course is to engage students in the discovery and learning the human body. This approach requires active student engagement and participation with the teacher acting as facilitator.

a. Learning will occur through lab experiences and analysis, readings, discourse, lecture and projects focusing on real world relevant topics and community engagement.
b. Whole class activities will involve sharing ideas, knowledge, careful consideration and challenge of others' ideas, and supporting claims with evidence and reasoning.
c. Individual study will be self-directed with support from teacher. Teacher will meet with individual students frequently to monitor progress and guide the process of self discovery.
d. While the majority of the learning will be student centered, teacher planning and organization remain valuable requirements. In addition, as the learning is to be student led, the teacher must continuously adjust, amend, and supplement lessons and activities to meet the needs and interests of the students.
e. **AVID, PBL, GLAD,** and **Digital Literacy** teaching strategies will be interspersed throughout the course to aid in helping students access and understand key concepts and principles.

Modifications, Accommodations and Differentiation to include all students:

1. Notes are typed so that students with various learning abilities, auditory and visual impairments and ELL students all have access to all lesson information.
2. Lecture information has bolded terms to aid students in identifying and highlighting key concepts
3. Difficult terms will be broken down into their roots and prefixes to help students understand etymological origins that can be applied to other terms or to their native language (especially Spanish).
4. Digital copies of all lectures and activities will be posted online for students to access anytime they need.
5. Links to tutorial based-sites, instructional videos, and other tools will be posted online so students can access to review difficult topics and subjects.
6. Homework assignments will be posted online so students can access it anytime especially when absent.
7. All students are allowed to re-take tests or quizzes (different version) as long as they first review with instructor in one-on-one tutoring during office hours.
8. Additional resources and extension practice/projects will be available to students who want to go deeper.
9. Students with IEPs or 504 plans are given additional time and can test in tutorial rooms with notes/book per their modification stipulations

23. Assessment Methods and/or Tools

Students will be assessed using multiple measures:

a. Unit Exams and Quizzes
b. Lab Practical Exams
c. Projects (Research Papers, Brochures, Etc)
d. Presentation (in person or Google Slides) using clear rubrics for both individual and group

e. Capstone Project based on course and Field Experience

24. Grading Policy

Grading will follow the San Leandro Unified School District's policy.

SECTION C

25. Context for Course (optional)

San Leandro High School is developing a BioHealth Pathway. This course was created to fill a much needed area in the pathway that does not exist currently here at San Leandro High School. Sports Medicine will be a capstone course that allows pathway students to finalize their BioHealth Pathway experience during their senior year. One of the key components to any Capstone course is outside field experience with an emphasis on career exploration in a specific field; in this case sports medicine and related fields. This course can be taught by a CTE instructor or by a regular life science instructor.