

Sports Medicine 2

COURSE OUTLINE - UC

DESCRIPTION:

Sports Medicine 2 prepares students for an entry-level position and post-secondary education in the sports medicine field by providing applied instruction in sports injury prevention, recognition and treatment, first aid/CPR/AED, therapeutic modalities, bandaging, taping, wrapping, protective bracing, and rehabilitation techniques for athletes. Additionally, students will learn about the layout and management of the athletic facility and field, return-to-play protocols, stressors in sports and pharmacology in athletics. Activities in this course include work-based learning that connects students to industry and the local community. Further academic skills are required to be a certified athletic trainer.

INFORMATION:

PRE-REQUISITE:	Sports Medicine 1
LENGTH:	One Year
SECTOR:	Health Science and Medical Technology
PATHWAY:	Patient Care
ARTICULATED:	No
UC A-G APPROVAL:	Yes: College-Preparatory Elective (G) – Laboratory Science – Biology / Life Sciences Requirement

O*NET SOC CODES:

29-1123	Recreational Therapists
29-9091	Athletic Trainers
31-2021	Physical Therapy Assistants
31-2022	Physical Therapist Aides
39-9031	Exercise Trainers and Group Fitness Instructors
41-4011	Sales Representatives

Orientation
<ul style="list-style-type: none"> A. Introduce the course and facilities. B. Discuss the syllabus and major objectives. C. Explain applicable classroom management procedures, and any operational guidelines. D. Review instructor/student expectations. E. Explain attendance requirements and procedures. F. Review grading and student evaluation procedures. G. Discuss the work-based learning aspect of the program, if applicable. H. Discuss the “next steps” related to additional education, training, and employment. I. Review classroom safety, emergency and disaster procedures.
1. Communication Skills
<ul style="list-style-type: none"> A. Demonstrate positive verbal communication skills using appropriate vocabulary, demeanor, and vocal tone in the classroom and/or worksite. B. Read and interpret written information and directions. C. Practice various forms of written communication appropriate to the occupation. D. Practice positive body language skills. E. Practice professional verbal skills for resolving a conflict. F. Demonstrate active listening skills including techniques for checking for understanding, and for obtaining clarification of directions.
2. Interpersonal Skills
<ul style="list-style-type: none"> A. Demonstrate positive teamwork skills by contributing to a group effort. B. Practice the importance of diversity awareness and sensitivity in the workplace. C. Define sexual harassment in the workplace and identify the employee’s role and responsibility. D. Practice participation skills. E. Identify different personality types and demonstrate flexibility and adaptability working with diverse individuals. F. Practice business and social etiquette skills appropriate to the occupation. G. Evaluate and discuss the role of business and personal ethics in decision making based on various job-related scenarios. H. Demonstrate the use of time management skills.
3. Employability Skills
<ul style="list-style-type: none"> A. Demonstrate appropriate attendance and punctuality practices for the classroom (and worksite, if applicable). B. Prepare a resume, cover letter, and job application.

- C. Demonstrate interviewing techniques in seeking employment, using appropriate tone, body language and professional dress and grooming standards.
- D. Identify strategies for employment retention.
- E. Identify and analyze sources of job information, including electronic sources and the impact of social networking on employability.
- F. Identify the need for continuing education, professional development, and professional growth in chosen field.
- G. Identify appropriate procedures for leaving a job.
- H. Review company policies and current trends in employee compatibility screening, drug screening, and background checks.

4. Leadership

- A. Define leadership and identify the responsibilities, competencies, and behaviors of successful leaders.
- B. Work with peers to promote divergent and creative perspectives.
- C. Demonstrate how to organize and structure work, individually and in teams, for effective performance and the attainment of goals.
- D. Explain multiple approaches to conflict resolution and their appropriateness for a variety of situations in the workplace.
- E. Employ ethical behaviors and actions that positively influence others.
- F. Analyze the short-term and long-term effects a leader's actions and attitudes can have on productivity, morale, and organizational culture.

5. Personal and Occupational Safety

- A. Demonstrate procedures to be followed in case of emergencies.
- B. Describe and discuss the procedure for reporting a work-related hazard or injury (worker's comp), including ways to report a potential safety hazard to a supervisor.
- C. Identify and discuss cyber ethics, cyber safety, and cyber security.
- D. Apply personal safety practices to and from the job.
- E. Recognize the effects of substance abuse in the workplace.
- F. Explain the importance of CAL-OSHA in the industry.
- G. Take appropriate safety measures such as universal procedures.
- H. Define and discuss ergonomics/body mechanics in relationship to working conditions and patient care in the physical therapy environment.
- I. Establish a plan for handling emergency situations in a Sports Medicine setting.
- J. Explain the importance of the American Physical Therapy Association (APTA) and the National Athletic Trainers Association (NATA).

6. Careers in Sports Medicine

- A. Discuss the history and evolution of the sports medicine profession.
- B. Describe changing employment trends.
- C. Explain career opportunities in sports medicine and related fields including non-traditional settings.

- D. Identify education, training and certification required for careers in sports medicine and therapy.
- E. Recognize the role of professional associations such as the National Athletic Trainers Association, American Physical Therapy Association, and the International Sports Sciences Association.
- F. Examine personal attributes, work values and communication styles that best align to the career.
- G. Identify paid and unpaid opportunities that help build a career in sports medicine.
- H. Explain the importance of continuing education/professional development.
- I. Develop career/education plan.

7. Ethics, Law, and Liability

- A. Demonstrate ethical and legal practices in sports medicine.
- B. Evaluate the key components of the Health Insurance Portability and Accountability Act (HIPAA).
- C. Define standard of care in negligence and examine torts liability.
- D. Explain how confidentiality and product liability rules apply to an athletic facility and equipment.
- E. Review measures to minimize litigation in sports medicine and athletics.
- F. Emphasize the privacy and legal consequences related to social media postings.
- G. Discuss insurance requirements that protect the athlete, trainer, and healthcare provider.

8. Preparticipation Physical Exam

- A. Describe the importance of pre-participation physical examination for athletes.
- B. Discuss the need for a physical examination prior to a specific activity and/or exercise, and what would constitute a disqualification.
- C. Recognize HIPAA and OSHA rules for record keeping of preparticipation physical examination.
- D. Demonstrate knowledge of common pre-existing medical conditions for athletes.
- E. Identify signs and symptoms of medical conditions that require immediate treatment.
- F. Describe methods to prevent medical conditions from becoming emergencies.
- G. List methods of handling emergencies associated with pre-existing conditions.
- H. Determine qualifications required for clearance to participate in sports.

9. Injury Evaluation

- A. Perform clinical evaluations using the HOPS (history, observation, palpation, and stress tests) process.
- B. Demonstrate "on field" evaluations following the HOPS process.
- C. Differentiate between acute and chronic injury.
- D. Identify chronic overuse injuries in sports and their cause including tendonitis, tenosynovitis, bursitis, osteoarthritis, and myofascial trigger points.
- E. Describe acute traumatic injuries, including fractures, dislocations and subluxations, contusion, and ligament sprains, muscle strains and soreness, and nerve injuries.

- F. Outline preventative methods and treatment methods for chronic injuries.
- G. Demonstrate how to properly care for open wound and blisters.
- H. Perform ROM (range of motion), ligamentous and functional testing.

10. Emergency Situations

- A. Demonstrate appropriate emergency response behaviors.
- B. Check vital signs and perform first-aid procedures including abdominal thrusts.
- C. Explain and practice CPR.
- D. Practice basic AED machine use and understand the situations requiring its use.
- E. Identify measures needed to control bleeding and shock.
- F. Explain the importance of good observational skills: look, listen, touch, and smell.
- G. Demonstrate the steps necessary to properly evaluate an athletic injury in an emergency.
- H. Demonstrate the correct procedure to safely transport an injured athlete in an emergency.

11. Bandaging and Taping Techniques

- A. Demonstrate the common techniques in the application of bandages and taping, including ankle wrap, ace wrap, and athletic tape.
- B. Select the types of tapes available for use in Sports Medicine.
- C. Identify indications and contraindications.
- D. Identify and explain the reasons for allergic reactions to tape and taping treatment and identify alternative ways of taping due to allergies.
- E. Identify new taping methods and products (e.g., kinesio tape).

12. Recognition of Tissue Injuries

- A. Describe characteristics and function of tissues.
- B. Recognize common bone and soft tissue injuries including wounds, sprains, strains, dislocations and fractures.
- C. Distinguish and differentiate the severity and degree of sprains and strains.
- D. Discuss how the body responds to tissue trauma.
- E. Explain the treatment and prevention of common bone and tissue injury.
- F. Demonstrate knowledge of the healing and regeneration process.

13. Recognition of Pelvis and Lower Extremity Injuries

- A. Identify major bones, muscles and joints in the pelvis.
- B. Explain the function of the pelvis.
- C. Identify major bones, muscles and joints in the thigh and hip.
- D. Explain the functions of the thigh and hip.

- E. Identify major bones, muscles and joints in the knee, ankle and foot.
- F. Explain the functions of the knee, ankle and foot.
- G. Identify common sports injuries to the pelvis, hip and thigh, ankle, foot, and knee including fractures, sprains, strains and dislocations.
- H. Recognize causes, signs and symptoms of injuries.
- I. Perform special tests related to these injuries.
- J. Manually test each muscle including the anterior, posterior, longus, brevis, soleus, and gastrocnemius.
- K. Practice response to emergency situations involving the pelvis and lower extremities.
- L. Recommend treatment and remedies based on assessments and tests of patients.
- M. Assess return-to-play for athletes with pelvis and lower extremity injuries.

14. Recognition of Shoulder and Upper Extremity Injuries

- A. Identify major bones, muscles and joints in the shoulder, elbow, forearm, arm, wrist and hand.
- B. Explain the functions of the shoulder and upper extremities.
- C. Name common sports injuries to the elbow, forearm and arm, wrist, and hand including fractures, sprains, dislocations and strains.
- D. Recognize causes, signs and symptoms of injuries.
- E. Perform special tests related to injuries in the upper extremity.
- F. Manually muscle test each muscle including the anterior, trapezius, rotators, and pectoralis.
- G. Practice response to emergency situations involving the shoulder and upper extremities.
- H. Recommend treatment and remedies based on assessments and tests.
- I. Assess return-to-play for athletes with shoulder and upper extremity injuries.

15. Recognition of Chest and Abdomen Injuries

- A. Identify the location, structure and function of the thorax and abdomen.
- B. Describe major sports injuries to the thorax and abdomen and recognize anatomical implications of the injuries.
- C. Identify the location, structure and function of the cardiopulmonary.
- D. Describe major sports injuries to the cardiopulmonary system and recognize anatomical implications of the injuries.
- E. Explain mechanics of breathing, breath control, lung capacity and lung volume.
- F. Review techniques for controlling bleeding and management of shock.
- G. Practice response to emergency situations involving internal injuries.
- H. Recommend treatment and remedies based on assessments and tests.
- I. Assess return-to-play for athletes with chest and abdomen injuries.

16. Recognition of Head, Neck, and Spine Injuries

- A. Identify the major parts of the brain, neck and spine.
- B. Describe the functions of the spine, neck and head.

- C. Recognize the causes, signs and symptoms of head, cervical and lumbar spine injury.
- D. Explain methods for preventing injury to the spine and head.
- E. Discuss major sports injuries to the head and neck focusing on concussions and traumatic brain injuries.
- F. Visualize and describe the traumatic and long-term effects of brain injuries/concussions.
- G. Identify components of a baseline concussion test to determine sports eligibility.
- H. Apply National Athletic Trainers' Association (NATA) position statement on concussion.
- I. Examine reflex arcs and perform reflex testing as a diagnostic test.
- J. Practice response to emergency situations involving the head.
- K. Demonstrate the use of a spinal board and proper technique for moving athlete in an emergency.
- L. Recommend treatment and remedies based on assessments and tests.
- M. Assess return-to-play for athletes with head, neck and spine injuries.

17. Positioning and Transferring Injured Athlete

- A. Evaluate equipment for possible hazards.
- B. Determine when to remove sports equipment and attire.
- C. Determine equipment for moving patient off the field, including the modification of equipment.
- D. Employ appropriate techniques to accommodate the health status of the injured athlete.
- E. Demonstrate appropriate transport and transfer methods to accommodate the health status of the athlete.
- F. Integrate proper body mechanics, ergonomics, safety equipment, and techniques to prevent injury to self, athlete and others.

18. Sports Therapy Modalities

- A. Identify the various common modalities used in Sports Medicine and the purpose of each.
- B. Discuss hydrotherapy, cold, heat, ultrasound, and electrotherapy therapies and their proper application in Sports Medicine.
- C. Discuss contra-indications and precautions for common sports therapy modalities.
- D. Demonstrate the various modalities associated with the plan of care for musculoskeletal injuries.
- E. Recognize the association between Sports Medicine modalities and the relationship with therapeutic exercise.

19. Rehabilitation

- A. Define the goals and types of rehabilitation.
- B. Describe the members and purpose of the rehabilitation team including the role of the sports medicine professional.
- C. Compare the different phases of the rehabilitation process and the rehabilitation environment.
- D. List five ways to make rehabilitation an enjoyable and productive experience.
- E. Describe and demonstrate the various types of exercises and their functions in a rehabilitation program.
- F. Describe and demonstrate proprioceptive exercises in a rehabilitation program for all major areas of the body.
- G. Describe and demonstrate special rehabilitation techniques such as proprioceptive neuromuscular facilitation, joint mobilization, etc.

- H. Describe and demonstrate functional return-to-play criteria.
- I. Recognize the physical and psychological impact of rehabilitation.
- J. Demonstrate how to use a goniometer to measure range of motion.
- K. Document the rehabilitation process.

20. Psychological Impact of Injury

- A. Discuss physical and emotional stressors associated with sports participation and how they can become a psychological stressor.
- B. List psychological and physical factors in sports that can create stress and negatively affect sports participation.
- C. Identify the athlete's physiological response to stress.
- D. Examine 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.
- F. Investigate attitudes and strategies that will improve mental health and performance of an athlete.

21. Pharmacology in Athletics

- A. Recognize the difference between therapeutic and recreational drugs.
- B. Differentiate between major classifications of medications.
- C. Identify popular nutritional supplements and discuss the pros, cons and legalities of nutritional supplements.
- D. Differentiate between legal and illegal ergogenic aid.
- E. Discuss the use of legal ergogenic aids such as caffeine, creatine, etc. for maximizing strength, endurance and lean body mass.
- F. Compare and contrast steroids and enhancement drugs, including human growth hormones.
- G. Identify uses, side effects and interactions of common prescription and over-the-counter drugs in sports medicine.
- H. Demonstrate knowledge of controversies relating to the use and abuse of performance enhancement drugs in sports.
- I. Recognize signs and symptoms of substance abuse and the need for drug testing programs.
- J. Recognize the lack of authority to prescribe or recommend medication.

22. Athletic Facility and Operations Management

- A. Describe the function of an athletic training facility.
- B. Discuss the layout and organization of an athletic training facility or physical therapy clinic.
- C. Name specific areas of a training facility and the corresponding tasks.
- D. Describe potential hazards and the reason for facility inspections and equipment safety.
- E. Define the critical elements for health and safety practices related to storing, cleaning, and maintaining tools, equipment, and supplies.
- F. Explain the rules and regulations of operating a sports medicine program.
- G. Recognize the importance of proper record keeping and budgeting in the Sports Medicine setting.
- H. Identify contracts and forms a trainer would use for clients.
- I. Explain basic budgetary concerns when ordering supplies and equipment.

23. Athletic Field Set up and Pack up

- A. Create event checklists and forms to organize field set up and pack up.
- B. Identify and gather supplies and equipment needed for game day and various sporting events.
- C. Perform specialized field/stage setups for a variety of sports events (e.g., dance, football, hockey, gymnastics, track and field, etc.)
- D. Participate in packing up for a variety of sports events.

24. Portfolio Design

- A. Develop personal marketing and computer skills by refining your digital portfolio for post-secondary and employment acceptance.
- B. Compile best samples of original works and documents for a variety of purposes, which shows a progression in the acquisition of knowledge and/or skills.
- C. Demonstrate knowledge of competencies through journaling or summary of selected works or documents.
- D. Revise professional resume and cover letter to align with skills and objective statements of the relevant industry.
- E. Dress professionally and practice interviewing techniques using portfolio materials.
- F. Assemble industry and employability documents (resume, cover letter, certifications, recommendation letters, etc.).
- G. Create a "leave behind" book or folder.
- H. Display portfolio materials during a fair, community event, competition, or professional panel review.
- I. Evaluate and utilize feedback to improve portfolio.

Key Assignments

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
1. Students will participate in mock interviews that represent current industry practices (e.g., skills demonstrations, resumes, applications, portfolios, personal websites, etc.).	1A, B, D 3B, C, D, I, J 6B, I 24A-I	2 3 10 11	2 3 4		LS 11-12.6 SLS 11-12.2
2. Students will research and create a multimedia presentation on the development of sports media practices, procedures, and an assigned medical career related to sports medicine and therapy.	1A, B, D 2D, F, H 6A-I	1 2 4	2 4 10	B2.0 B5.0 B13.0	LS 11-12.6 SLS 11-12.2
3. In response to an assigned sports injury scenario, groups of students (who represent athlete, parents, coach, and athletic trainers) will research and develop a legal and ethical argument for their "client" (pertaining to equipment, facility, negligence, torts, HIPAA and social media content) including the corrective steps to be taken. Students will support their position in a digital presentation with facts from the scenario and research material, then debate and/or present their arguments in class.	1A, B, D 2D, F 7A-G	1 2 4 6 9	2 4 5 6 10	B2.0 B3.0 B4.0 B5.0 B7.0	LS 11-12.6 SLS 11-12.2 A-REI 1, 3, 10 S-IC 1
4. Research assigned pre-existing medical condition and create a presentation that includes: <ul style="list-style-type: none"> A description of the pre-existing condition. Methods that can be used to prevent a pre-existing condition from becoming an emergency. List the signs and symptoms that the medical condition that require immediate treatment. How to handle an emergency related to a pre-existing condition. 	1A, B, D 2D, F 5A, G, H 8A-H 9A-C 10A	1 2 8 10 11	2 4 5 6 8 10	B2.0 B4.0 B5.0 B7.0 B9.0	SLS 11-12.2 RSIT 11-12.4 S-IC 1, 2, 3, 5, 6 PS 2.A
5. In response to a case scenario, students will research, write and present a paper as to the type of injury, the difference between acute and chronic injuries, whether the injury is acute or chronic, and overused. Students will then take turns acting as "athlete" and "trainer" to perform evaluations using the HOPS method. Students must identify specific ranges of motion for various joints, measure the motions using a goniometer, determine which muscles	1A, B, D 2D, F 4A-C 9A-H	1 2 5 10 11	2 4 5 6 8	B2.0 B4.0 B5.0 B7.0 B12.0	LS 11-12.1, 11-12.2, 11-12.3, 11-12.6 RSIT 11-12.8 RLST 11-12.1, 11-12.4 WS 11-12.4

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
produce the motions and correctly perform a manual muscle test and document all findings in an injury report.			10		WHSST 11-12.2, 11-12.4 PS 2.A
6. Students will role-play in clinical scenarios to practice CPR/AED/First aid skills. They will perform both single and two rescuer CPR, according to the most up to date AHA certification protocols. Students will document procedures in an athletic training injury log and injury report form. Students will demonstrate emergency protocols, including the proper use of a spine board, proper technique of performing the log roll, forms of CPR and the Heimlich Maneuver.	1A, B, D 2D, F 4A-C 10A-H	1 2 5 9	2 5 6 7 10	B2.0 B7.0 B8.0 B9.0 B12.0	LS 11-12.1, 11-12.5, 11-12.6 PS 2.A
7. Students will demonstrate proper taping techniques to increase stability and proprioception and decrease pain for various joint injuries.	1A, B, D 2D, F 4A-C 11A-E	1 5 8 9 12	2 5 6 9 10	B2.0 B6.0 B5.0 B9.0	LS 11-12.3 RLST 11-12.9 PS 2.A
8. Students will depict phases of tissue response to inflammation as well as treatment for all phases in a multimedia presentation.	1A, B, D 2D, F 4A-C 12A-F	1 2 4 8 9 10	2 6 8 10	B2.0 B4.0 B5.0 B9.0 B12.0	LS 11-12.3 SLS 11-12.2 RSIT 11-12.4 S-IC 1, 2, 3, 5, 6
9. Students will research a specific injury relevant to this unit and present their findings to the class. The presentation should explain the anatomy involved, the cause and mechanism of the injury, how to recognize and assess it (including any special tests), as well as recommended treatment, typical recovery timelines, and prevention strategies. Following the presentations, students will complete a test on anatomical structures and common injuries covered in the unit.	1A, B, D 2D, F 4A-C 13A-M 14A-I 15A-I 16A-M	1 2 5 9 10 12	2 5 6 7 9	B2.0 B4.0 B7.0 B8.0 B12.0	LS 11-12.1, 11-12.5, 11-12.6 SLS 11-12.2

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
As part of the practical assessment, students will demonstrate their ability to recognize, evaluate, and manage mock injuries in front of a panel of classmates. This includes verbally explaining and physically demonstrating special tests, manually testing muscles when appropriate, and responding to simulated emergency scenarios. Students will then write a journal reflection on their performance, the feedback they received from peers, and what they learned throughout the process.					
10. Students will demonstrate the proper extrication and/or stabilization techniques for injured athletes.	1A, B, D 2D, F 4A-C 17A-F	1 2 5 9 12	2 5 6 10	B2.0 B8.0 B9.0 B12.0	LS 11-12.1, 11-12.5, 11-12.6 PS 2.A
11. Students will design and perform skills demonstration and exercises for an outpatient injury rehabilitation regimen to include equipment, weights, and sports therapy modalities. Students will then answer questions regarding the goals and objectives of each type of rehabilitation.	1A, B, D 2D, F 4A-C 18A-E 19A-K	1 2 5 7	2 5 6 10	B2.0 B6.0 B8.0 B12.0	LS 11-12.1, 11-12.2, 11-12.5, 11-12.6 WS 11-12.4, 11-12.6, 11-12.8
12. Students will interview an athlete on campus or research a professional athlete to identify some mental/psychological stressors they have experienced. For each identified psychological stressor given by the athlete, describe the possible methods that would have helped the athlete cope and prepare for competition.	1A, B, D 2D, F 4A-C 20A-F	1 2 4 6 11	2 4 5 7 8 9	B2.0 B3.0 B6.0 B7.0 B12.0	SLS 11-12.2 A-REI 1, 3, 10 S-IC 1 PS 2.A
13. Students will watch the documentary 'Doping for Gold' and have a class discussion on the consequences of drug use in an Olympic setting, and whether or not it should remain outlawed. In teams, students will be assigned an ergogenic aid, steroid, supplement, etc. for which they will create a poster that describes the drug, its use in sports, regulations, and controversies surrounding its use.	1A, B, D 2D, F 4A-C 21A-J	1 4 8 9 10	2 5 6 8 9	B5.0 B6.0 B7.0 B9.0	RSIT 11-12.4 S-IC 1, 2, 3, 5, 6

Assignment	Competencies	Career Ready Practices	Anchor Standards	Pathway Standards	CCSS
The poster will be posted in a gallery walk and must be resourceful, imaginative and informative.					
14. Students will design a floor plan of an athletic training facility to meet the following needs of high school athletes: <ul style="list-style-type: none"> Label specific areas of the training facility and describe their function, determine equipment needed and explain the purpose and use of the equipment. Create a cleaning or maintenance schedule for the facility. Develop a trainer contract for clients as well as a budget for necessary supplies. 	1A, B, D 2D, F 4A-C 22A-I	1 2 5 8 9	2 5 6 7 10	B8.0 B9.0 B10.0 B12.0	LS 11-12.1, 11-12.5, 11-12.6
15. Develop an event checklist for an assigned sporting event that includes equipment, supplies, task assignment. Work at a home school sporting event (observe if not allowed) and write a reflective paper comparing student's checklist to the actual preparation required for the sporting event.	1A, B, D 2D, F 4A-C 23A-D	1 2 4 7 8 11	2 4 6 8 10	B9.0 B10.0 B12.0	SLS 11-12.2 RSIT 11-12.4 S-IC 1, 2, 3, 5, 6

Standards Assessed in this Program

Career Ready Practices

1. Apply appropriate technical skills and academic knowledge.
2. Communicate clearly, effectively, and with reason.
3. Develop an education and career plan aligned to personal goals.
4. Apply technology to enhance productivity.
5. Utilize critical thinking to make sense of problems and persevere in solving them.
6. Practice personal health and understand financial well-being.
7. Act as a responsible citizen in the workplace and the community.
8. Model integrity, ethical leadership, and effective management.
9. Work productively in teams while integrating cultural/global competence.
10. Demonstrate creativity and innovation.
11. Employ valid and reliable research strategies.
12. Understand the environmental, social, and economic impacts of decisions.

Anchor Standards

2.0 Communications

- Acquire and use accurately sector terminology and protocols at the career and college readiness level for communicating effectively in oral, written, and multimedia formats.

3.0 Career Planning and Management

- Integrate multiple sources of career information from diverse formats to make informed career decisions, solve problems, and manage personal career plans.

4.0 Technology

- Use existing and emerging technology, to investigate, research, and produce products and services, including new information, as required in the sector workplace environment.

5.0 Problem Solving and Critical Thinking

- Conduct short, as well as more sustained, research to create alternative solutions to answer a question or solve a problem unique to the sector using critical and creative thinking, logical reasoning, analysis, inquiry, and problem-solving techniques.

6.0 Health and Safety

- Demonstrate health and safety procedures, regulations, and personal health practices and determine the meaning of symbols, key terms, and domain-specific words and phrases as related to the sector workplace environment.

7.0 Responsibility and Flexibility

- Initiate, and participate in, a range of collaborations demonstrating behaviors that reflect personal and professional responsibility, flexibility, and respect in the sector workplace environment and community settings.

8.0 Ethics and Legal Responsibilities

- Practice professional, ethical, and legal behavior, responding thoughtfully to diverse perspectives and resolving contradictions when possible, consistent with applicable laws, regulations, and organizational norms.

9.0 Leadership and Teamwork

- Work with peers to promote divergent and creative perspectives, effective leadership, group dynamics, team and individual decision making, benefits of workforce diversity, and conflict resolution.

10.0 Technical Knowledge and Skills

- Apply essential technical knowledge and skills common to all pathways in the sector following procedures when carrying out experiments or performing technical tasks.

Pathway Standards

Health Science and Medical Technology - Patient Care Pathway

B2.0 Understand the basic structure and function of the human body and relate normal function to common disorders.

B3.0 Know how to apply mathematical computations used in healthcare delivery system.

B4.0 Recognize and practice components of an intake assessment relevant to patient care.

B5.0 Know the definition, spelling, pronunciation, and use of appropriate terminology in the healthcare setting.

B6.0 Communicate procedures and goals to patients using various communication strategies to respond to questions and concerns.

B7.0 Apply observation techniques to detect changes in the health status of patients.

B8.0 Demonstrate the principles of body mechanics as they apply to the positioning, transferring, and transporting of patients.

B9.0 Implement wellness strategies for the prevention of injury and disease.

B10.0 Comply with protocols and preventative health practices necessary to maintain a safe and healthy environment for patients, health care workers, coworkers, and self within the health care setting.

B11.0 Comply with hazardous waste disposal policies and procedures, including documentation, to ensure that regulated waste is handled, packaged, stored, and disposed of in accordance with federal, state, and local regulations.

B12.0 Adhere to the roles and responsibilities, within the scope of practice, that contribute to the design and implementation of treatment planning

B13.0 Research factors that define cultural differences between and among different ethnic, racial, and cultural groups and special populations.

Common Core State Standards

ENGLISH LANGUAGE ARTS

Language Standards

LS 11-12.6: Acquire and use accurately 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 11-12.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

- LS 11-12.2:** Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- LS 11-12.3:** Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- LS 11-12.5:** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- LS 11-12.6:** Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Reading Standards for Information Text

RSIT 11-12.8: Delineate and evaluate the reasoning in seminal US texts, including the application of constitutional principles and use of legal reasoning (e.g., in US Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., *The Federalist*, presidential addresses).

Reading Standards for Literacy in Science and Technical Subjects

- RLST 11-12.1:** Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes to any gaps or inconsistencies in the account.
- RLST 11-12.3:** Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
- RLST 11-12.4:** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics.
- RLST 11-12.9:** Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Speaking and Listening Standards

- SLS 11-12.2:** 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 11-12.1:** 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 11-12.1d:** 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.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

- WHSST 11-12.2:** Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
- WHSST 11-12.4:** Produce clear and coherent writing in which the development, organization, and style are appropriate for task, purpose, and audience.

Writing Standards

- WS 11-12.4:** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WS 11-12.6: 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 11-12.7: 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.

WS 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 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 including footnotes and endnotes.

MATHEMATICS

Algebra-Reasoning with Equations and Inequalities

AREI 1: Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

AREI 3: Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Algebra - Reasoning with Equations and Inequalities

A-REI 10: Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Statistics and Probability - Making Inferences and Justify Conclusions

S-IC 1: Understand statistics as a process for making inferences about population parameters based on a random sample from that population.

S-IC 2: Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?

S-IC 3: Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

S-IC 5: Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.

S-IC 6: Evaluate reports based on data.

SCIENCE

Physical Sciences

PS 2.A: Forces and Motion