Rumson-Fair Haven Regional High School

Intro to Athletic Training Curriculum

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Section I: Course Description

Introduction to Athletic Training provides high school students with a general overview of athletic training, sports medicine and its history. It includes introductory information about the athletic trainer's scope of practice: injury prevention, treatment, rehabilitation, emergency injury management and administrative functions. This course is intended to help students gain an understanding of sports medicine, various associated disciplines and the role they play in the physically active community. Students enrolled in this class will not provide patient care.

Section II: NJSLS: New Jersey Student Learning Standards/Learning Objectives

1. **Comprehensive Health and Physical Education of the *2020 NJSLS***
   https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CHPE.pdf
   - "Successful preparation of students for the opportunities, rigors and advances of the 21st Century cannot be accomplished without a strong and sustained emphasis on the health and wellness of all students. Today's students are continually bombarded with physical, mental, and social influences that affect not only learning in school, but also the lifelong health of the citizens that schools are preparing for graduation. To that end, the New Jersey Student Learning Standards - Comprehensive Health and Physical Education (NJSLS-CHPE) were revised to address the need for students to gain knowledge and skills in caring for themselves, interact effectively with others, and analyze the impact of choices and consequences."

2.1 Personal and Mental Health

Personal Growth and Development

2.1.12.PGD.1: Develop a health care plan that includes practices and strategies designed to support an active lifestyle, attend to mental health, and foster a healthy, social and emotional life.

Emotional Health

2.1.12.EH.1: Recognize one's personal traits, strengths, and limitations and identify how to develop skills to support a healthy lifestyle.
2.1.12.EH.3: Describe strategies to appropriately respond to stressors in a variety of situations (e.g., academics, relationships, shootings, death, car accidents, illness).
2.1.12.EH.4: Analyze and adapt mental and emotional health messages and communication techniques to peers and other specific target audience (e.g., dimensions of health).

Community Health Services and Support

2.1.12.CHSS.1: Analyze the opportunities available at home, in school, and in the community to support the mental health of oneself or an individual.

2.1.12.CHSS.2: Develop an advocacy plan for a health issue and share this information with others who can benefit.
2.1.12.CHSS.5: Analyze a variety of health products and services based on cost, availability, accessibility, benefits and accreditation in the home, school, and in the community (e.g., suicide prevention, breast/testicular self-examination, CPR/AED, life skills training, menstrual products).
2.1.12.CHSS.6: Evaluate the validity of health information, resources, services, in school, home and in the community.
2.1.12.CHSS.9: Develop an action plan to assist individuals who have feelings of sadness, anxiety, stress, trauma, or depression and share this information with individuals who will benefit.

2.2 Physical Wellness

Movement Skills and Concepts
2.2.12.MSC.1: Explain and demonstrate ways to apply movement skills from one game, sport, aerobics, or recreational activity to another including striking skills (e.g., tennis, badminton, ping pong, racquetball, pickle ball).
2.2.12.MSC.2: Analyze application of force and motion (e.g., weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.
2.2.12.MSC.3: Design, lead and critique rhythmic and physical activity that includes variations in time, space, force, flow, and relationships (e.g., creative, cultural, social, aerobics dance, fitness).
2.2.12.MSC.4: Analyze etiquette, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance, participation, and behavior.
2.2.12.MSC.5: Develop rule changes to existing games, sports, and activities that enhance participation, safety, and enjoyment.

Physical Fitness
2.2.12.PF.1: Compare the short- and long-term benefits of physical activity and the impact on wellness associated with physical, mental, emotional fitness through one's lifetime.
2.2.12.PF.2: Respect and appreciate all levels of ability and encourage with care during all physical activities.
2.2.12.PF.3: Design and implement a personal fitness plan, using evidence and evaluate how that reflects knowledge and application of fitness-training principals (FITT) and the components of skill related fitness.
2.2.12.PF.4: Determine the role of genetics, age, nutrition, sleep, the environment, and exercise type on body composition and personal health (e.g., anabolic steroids, human growth hormones, stimulants).
2.2.12.PF.5: Analyze fitness knowledge in strength, conditioning, agility, and the physiological responses of the energy systems effects on the mind and body before, during, and after physical fitness activities.

Lifelong Fitness

2.2.12.LF.1: Apply and share a movement and physical fitness vocabulary that is intrinsic to motivate oneself, to impact family, and others in a community.

2.2.12.LF.2: Develop a sense of openness and willingness when participating in physical fitness activity to share and learn experiences from your own and other cultures.

2.2.12.LF.3: Examine building to a level of fitness to successfully participate in a range of different physical activities during a lifetime.

2.2.12.LF.4: Exhibit responsible social behavior by including and cooperating with classmates of all skill levels, assisting when needed, and collaborating respectfully to solve problems in groups, teams, and in pairs during physical activity.

2.2.12.LF.5: Describe the social benefits gained from participating in physical activity (e.g., meeting someone, making friends, team work, building trust, experiencing something new).

2.2.12.LF.7: Analyze the current and future impact of globalization and technology on the influences of participation in sports, games, physical fitness activities, dance, gaming, outdoor adventure, viewing sports, and social and emotional connections.

2.2.12.LF.8: Identify personal and community resources to explore career options related to physical activity and health.

2.3 Safety

Personal Safety

2.3.12.PS.1: Apply a thoughtful decision-making process to evaluate situations and influences that could lead to healthy or unhealthy consequences (e.g., peers, media).

2.3.12.PS.8: Develop strategies to communicate effectively, safely, and with empathy when using digital devices in a variety of situations (e.g., cyberbullying, sexting).

2.3.12.PS.9: Evaluate strategies to use social media safely, legally, and respectfully.

Health Conditions, Diseases and Medicines

2.3.12.HCDM.1: Develop a health care plan to help prevent and treat diseases and health conditions one may encounter (e.g., breast/testicular exams, Pap smear, regular STIs testing, HPV vaccine).

2.3.12.HCDM.2: Provide examples of how drugs and medication mimic or block the action of certain cells in the body, and how abusing drugs can affect the human body.

2.3.12.HCDM.4: Evaluate emerging methods to diagnose and treat diseases and health conditions that are common in young adults in the United States and in other countries (e.g., hepatitis, stroke, heart attacks, cancer,).

2.3.12.HCDM.5: Analyze local, state, and international public health efforts to prevent and control diseases and health conditions (e.g., vaccinations, immunizations, medical exams, gene editing, artificial organ systems, prosthesis).

2. **Science**
   https://www.nj.gov/education/cccs/2020/NJSLS-Science.pdf
   - "Scientific and technological advances have proliferated and now permeate most aspects of life in the 21st century. It is increasingly important that all members of our society develop an understanding of scientific and engineering concepts and processes. Learning how to construct scientific explanations and how to design evidence-based solutions provides students with tools to think critically about personal and societal issues and needs. Students can then contribute meaningfully to decision-making processes, such as discussions about climate change, new approaches to health care, and innovative solutions to local and global problems."

HS-PS2: Motion and Stability: Forces and Interactions
HS-PS2-1 Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.
HS-PS2-3 Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.
HS-PS2-5 Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.
HS-PS2-6 Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

HS-PS3: Energy
HS-PS3-1 Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.
HS-PS3-2 Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects).
HS-PS3-4 Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).
HS-PS3-5 Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction.

HS- PS4: Waves and Their Applications in Technologies for Information Transfer
HS-PS4-2 Evaluate questions about the advantages of using a digital transmission and storage of information.
HS-PS4-3 Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.
HS-PS4-4 Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.

HS-PS4-5 Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.

HS-LS1: From Molecules to Organisms: Structures and Processes
HS-LS1-1 Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.
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-LS1-4 Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.
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 carbonbased 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: Ecosystems: Interactions, Energy, and Dynamics
HS-LS2-1 Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.
HS-LS2-1 Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.

HS- LS3: Heredity: Inheritance and Variation of Traits
HS-LS3-1 Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.
HS-LS3-1 Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.

HS- ETS1: Engineering Design
HS-ETS1-1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
HS-ETS1-3 Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

HS-ETS1-4 Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

3. **Career Ready Practices:**
   https://www.state.nj.us/education/cccs/2014/career/CareerReadyPractices.pdf
   - "Career Ready Practices describe the career-ready skills that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study."

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

4. ***Standard 8.1 (Computer Science) and 8.2 (Design Thinking)* of the *2020 NJSLS:***
   https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf
   - "The 'Intent and Spirit of the Computer Science and Design Thinking Standards' is to focus on deep understanding of concepts that enable students to think critically and systematically about leveraging technology to solve local and global issues. Authentic learning experiences that enable students to apply content knowledge, integrate concepts across disciplines, develop computational thinking skills, acquire and incorporate varied perspectives, and communicate with diverse audiences about the use and effects of computing prepares New Jersey students for college and careers."

8.1 Computer Science

Impacts of Computing
8.1.12.IC.1: Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
8.1.12.IC.3: Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.

Data & Analysis

8.1.12.DA.1: Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
8.1.12.DA.2: Describe the trade-offs in how and where data is organized and stored.
8.1.12.DA.5: Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
8.1.12.DA.6: Create and refine computational models to better represent the relationships among different elements of data collected from a phenomenon or process.

8.2 Design Thinking

Engineering Design
8.2.12.ED.1: Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.
8.2.12.ED.3: Evaluate several models of the same type of product and make recommendations for a new design based on a cost benefit analysis.
8.2.12.ED.4: Design a product or system that addresses a global problem and document decisions made based on research, constraints, trade-offs, and aesthetic and ethical considerations and share this information with an appropriate audience.
8.2.12.ED.5: Evaluate the effectiveness of a product or system based on factors that are related to its requirements, specifications, and constraints (e.g., safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, ergonomics).
8.2.12.ED.6: Analyze the effects of changing resources when designing a specific product or system (e.g., materials, energy, tools, capital, labor).

Interaction of Technology and Humans
8.2.12.ITH.1: Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
8.2.12.ITH.2: Propose an innovation to meet future demands supported by an analysis of the potential costs, benefits, trade-offs, and risks related to the use of the innovation.
8.2.12.ITH.3: Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.

Nature of Technology
8.2.12.NT.1: Explain how different groups can contribute to the overall design of a product.
8.2.12.NT.2: Redesign an existing product to improve form or function.

Effects of Technology on the Natural World
8.2.12.ETW.1: Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation, and maintenance of a chosen product.
8.2.12.ETW.2: Synthesize and analyze data collected to monitor the effects of a technological product or system on the environment.

Ethics & Culture

8.2.12.EC.1: Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.
8.2.12.EC.3: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.

5. ***Standard 9.4 (Life Literacies and Key Skills)* of the *2020 NJSLS*:**
   https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf
   - "This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy* that are critical for students to develop to live and work in an interconnected global economy."

9.2 Career Awareness, Exploration, Preparation, and Training
9.2.12.CAP.1: Analyze unemployment rates for workers with different levels of education and how the economic, social, and political conditions of a time period are affected by a recession.
9.2.12.CAP.2: Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
9.2.12.CAP.3: Investigate how continuing education contributes to one's career and personal growth.
9.2.12.CAP.4: Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
9.2.12.CAP.5: Assess and modify a personal plan to support current interests and postsecondary plans.
9.2.12.CAP.6: Identify transferable skills in career choices and design alternative career plans based on those skills.
9.2.12.CAP.7: Use online resources to examine licensing, certification, and credentialing requirements at the local, state, and national levels to maintain compliance with industry requirements in areas of career interest.
9.2.12.CAP.8: Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors.
9.2.12.CAP.9: Locate information on working papers, what is required to obtain them, and who must sign them.
9.2.12.CAP.10: Identify strategies for reducing overall costs of postsecondary education (e.g., tuition assistance, loans, grants, scholarships, and student loans).

9.4 Life Literacies and Key Skills
9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas.
9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities.
9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition.
9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice.

9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving.
9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue.
9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
9.4.12.IML.1: Compare search browsers and recognize features that allow for filtering of information.
9.4.12.IML.2: Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources
9.4.12.TL.3: Analyze the effectiveness of the process and quality of collaborative environments.
9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

6. ***LGBT and Disabilities Law: N.J.S.A. 18A:35-4.35*:**
   https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CLKS.pdf
   - A transformative approach to the inclusion of lessons and resources/texts on the contributions and issues concerning the LGBTQ+ population and people with disabilities will be implemented across all core subjects in accordance with state law: "A board of education shall include instruction on the political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people, in an appropriate place in the curriculum of middle school and high school students as part of the district's implementation of the New Jersey Student Learning Standards (N.J.S.A.18A:35-4.36). A board of education shall have policies and procedures in place pertaining to the selection of instructional materials to implement the requirements of N.J.S.A. 18A:35-4.35."

7. **Climate Change:**
   https://www.nj.gov/education/cccs/2020/
   - "Climate Change across all content areas, leveraging the passion students have shown for this critical issue and providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs"

8. **Acquisition/development/refinement of the higher-order critical thinking skills aligned with the *Revised Bloom's Taxonomy of Cognitive Objectives***

Section III: Curriculum Modifications

The *Introduction to Athletic Training Curriculum* is subject to case-by-case modifications to support/advance the needs of all students, including special education students, English language learners, gifted students and those at risk of school failure. These modifications are based on Individualized Learning Programs (IEPs), recommendations made by the district's English Language Learners (ELL) coordinator, feedback from members of the Intervention & Referral Services Team (*I&RS*) for at-risk students, and 504 Plans.

Section IV: Preparation for Standardized Testing

Instruction in the *Introduction to Athletic Training* course is aligned with the requirements of state and national standardized assessments, including the *NJSLA*, the *ACT*, the *PSAT* and the *SAT*. The *End of Marking Period Assessments* for *the Introduction to Athletic Training Course* also demonstrate alignment with the aforesaid standardized assessments.

Section V: Curriculum Pacing Guide

Curriculum Pacing Guide		
Course Title: Introduction to Athletic Training		**Grade Level: 10-12**
Unit I: Professional and Administrative Aspects of Athletic Training	1st Semester: Sept (1-2 weeks)	2nd Semester: Jan (1-2) weeks
Unit II: Basics of Human Anatomy and Physiology	1st Semester: Sept (2-3 weeks)	2nd Semester: Jan (2-3) weeks
Unit III: Understanding Athletics-Related Injuries of the Lower Extremity	1st Semester: Oct (2 weeks)	2nd Semester: Feb (2 weeks)
Unit IV: Understanding Athletics-Related Injuries to the Upper Extremity	Oct (2 weeks)	Feb (2 weeks)
Unit V: Understanding Athletics-Related Injuries to the Axial Skeleton	Nov (2-3 weeks)	Mar (2 weeks)
Unit VI: Rehabilitation and Reconditioning of Athletics Related Injuries	1st Semester: Nov & Dec (2-3 weeks)	2nd Semester: Mar & April (2-3 weeks)
Unit VII: Providing Emergency Care	1st Semester: Dec - Jan (2-3 weeks)	2nd Semester: May-June (2-3 weeks)
Unit VIII: Preventing Athletic-Related Injuries	1st Semester: Jan (2-3 weeks)	2nd Semester: June (2-3 weeks)

Section VI: Texts and Instructional Resources

The following texts and instructional resources are employed in the Intro to Athletic Training Course:

- Cartwright, Lorin, and Pitney, William. *Fundamentals of Athletic Training* 2nd Edition. 2005.
- Prentice, William. *Arnheim's Principles of Athletic Training 17th Edition.* 2017
- Kahoot: https://kahoot.com/
- Quizlet: https://quizlet.com/

- Youtube: https://www.youtube.com/
- Journal of Athletic Training: https://meridian.allenpress.com/jat/issue
- Athletic Training Education Journal: https://meridian.allenpress.com/atej/issue
- Common Sense Education: (www.commonsense.org)
- Biolayne: https://www.biolayne.com/
- GoToMeeting: https://www.gotomeeting.com/
- GoogleClass: https://classroom.google.com/u/0/h

Section VII: Grading Formula and Assessment Modes

Marking period grades in the Intro to Athletic Training Course are determined via a percentage weighting model that is comprised of the following grading categories:

Marking Periods 1, 2 & 4

Category	
Class Participation	10%
Class Work	20%
Homework	20%
Assessments	30%
End of Marking Period Assessment	20%

Marking Periods 3

Category	MP 3
Class Participation	15%
Class Work	25%
Homework	25%
Assessments	35%
End of Marking Period Assessment	

Section VIII: Unit Templates

The following *Unit Templates* have been established for the Intro to Athletic Training Course *Curriculum* by the *Intro to Athletic Training Instructional Team:*

UNIT 1: Professional and Administrative Aspects of Athletic Training
This unit gives an overview of athletic training by discussing preparation for professional and administrative aspects of athletic training. Students examine the roles and various settings of the certified athletic trainer, as part of the larger sports medicine team. Next, students will explore the education, training and ongoing professional development that athletic trainers must complete to maintain certification. Lastly, students will delve into the legal issues, administration, documentation and communications skills that are necessary for the sports medicine professional.
Students will... Define athletic training and identify various sports medicine professionals. Describe the roles of the certified athletic trainer. Describe the roles of other health care providers and the sports medicine team.

List the requirements for becoming a competent certified athletic trainer.
Describe the job opportunities available to certified athletic trainers.
Describe the concept of negligence, and explain ways to prevent being negligent.
Understand the types of medical paperwork and record keeping necessary for organizational and administrative purposes.
Describe why insurance is necessary.
Explain why preventing injuries is the best defense against legal liability.
Describe the typical organization and preparticipation physical exam.
Understand the concept of professional practice in athletic training.
State and describe the standards of professional practice in athletic training.
Explain the importance of continuing education and the NATA requirements.

Standards/Core Ideas/Performance Expectations

2020 New Jersey Student Learning Standards - Comprehensive Health and Physical Education

- **2.1 Personal and Mental Health**
  - **2.1.12.PGD.1**: Develop a health care plan that includes practices and strategies designed to support an active lifestyle, attend to mental health, and foster a healthy, social and emotional life.
  - **2.1.12.PGD.2**: Predict how healthy and unhealthy behaviors can affect brain development and impact physical, social and emotional stages of early adulthood.
  - **2.1.12.EH.1**: Recognize one's personal traits, strengths, and limitations and identify how to develop skills to support a healthy lifestyle.
  - **2.1.12.EH.4**: Analyze and adapt mental and emotional health messages and communication techniques to peers and other specific target audience (e.g., dimensions of health).
  - **2.1.12.CHSS.1**: Analyze the opportunities available at home, in school, and in the community to support the mental health of oneself or an individual.
  - **2.1.12.CHSS.2**: Develop an advocacy plan for a health issue and share this information with others who can benefit.
  - **2.1.12.CHSS.5**: Analyze a variety of health products and services based on cost, availability, accessibility, benefits and accreditation in the home, school, and in the community (e.g., suicide prevention, breast/testicular self-examination, CPR/AED, life skills training, menstrual products).
  - **2.1.12.CHSS.6**: Evaluate the validity of health information, resources, services, in school, home and in the community.
  - **2.1.12.CHSS.7**: Describe how individuals and local, state, and global advocacy organizations can collaborate to address common local and global health and social issues (e.g., hunger, clean water, organ/tissue donation).
  - **2.1.12.CHSS.8**: Investigate how local, state, and global agencies are addressing health issues caused by climate change and share this information in an appropriate setting.
  - **2.1.12.CHSS.9**: Develop an action plan to assist individuals who have feelings of sadness, anxiety, stress, trauma, or depression and share this information with individuals who will benefit.
- **2.2 Physical Wellness**

- **2.2.12.PF.1**: Compare the short- and long-term benefits of physical activity and the impact on wellness associated with physical, mental, emotional fitness through one's lifetime.
- **2.2.12.PF.2**: Respect and appreciate all levels of ability and encourage with care during all physical activities.
- **2.2.12.LF.4**: Exhibit responsible social behavior by including and cooperating with classmates of all skill levels, assisting when needed, and collaborating respectfully to solve problems in groups, teams, and in pairs during physical activity.
- **2.2.12.LF.6**: Implement a financial plan for participation in physical activity in the community for self and family members.
- **2.2.12.LF.7**: Analyze the current and future impact of globalization and technology on the influences of participation in sports, games, physical fitness activities, dance, gaming, outdoor adventure, viewing sports, and social and emotional connections.
- **2.2.12.LF.8**: Identify personal and community resources to explore career options related to physical activity and health.

- **2.3 Safety**
  - **2.3.12.PS.1**: Apply a thoughtful decision-making process to evaluate situations and influences that could lead to healthy or unhealthy consequences (e.g., peers, media).
  - **2.3.12.PS.8**: Develop strategies to communicate effectively, safely, and with empathy when using digital devices in a variety of situations (e.g., cyberbullying, sexting).
  - **2.3.12.PS.9**: Evaluate strategies to use social media safely, legally, and respectfully.
  - **2.3.12.HCDM.5**: Analyze local, state, and international public health efforts to prevent and control diseases and health conditions (e.g., vaccinations, immunizations, medical exams, gene editing, artificial organ systems, prosthesis).

2020 New Jersey Student Learning Standards – Computer Science and Design Thinking

- **8.1 Computer Science**
  - **8.1.12.IC.1:** Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
  - **8.1.12.IC.3:** Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
  - **8.1.12.DA.1:** Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
  - **8.1.12.DA.2:** Describe the trade-offs in how and where data is organized and stored.
  - **8.1.12.DA.5**: Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
  - **8.1.12.DA.6**: Create and refine computational models to better represent the relationships among different elements of data collected from a phenomenon or process.
- **8.2 Design Thinking**
  - **8.2.12.ED.1:** Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.

- **8.2.12.ED.3:** Evaluate several models of the same type of product and make recommendations for a new design based on a cost benefit analysis.
- **8.2.12.ED.4:** Design a product or system that addresses a global problem and document decisions made based on research, constraints, trade-offs, and aesthetic and ethical considerations and share this information with an appropriate audience.
- **8.2.12.ED.5**: Evaluate the effectiveness of a product or system based on factors that are related to its requirements, specifications, and constraints (e.g., safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, ergonomics).
- **8.2.12.ED.6**: Analyze the effects of changing resources when designing a specific product or system (e.g., materials, energy, tools, capital, labor).
- **8.2.12.ITH.1:** Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
- **8.2.12.ITH.2:** Propose an innovation to meet future demands supported by an analysis of the potential costs, benefits, trade-offs, and risks related to the use of the innovation.
- **8.2.12.ITH.3:** Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.
- **8.2.12.NT.1:** Explain how different groups can contribute to the overall design of a product.
- **8.2.12.NT.2:** Redesign an existing product to improve form or function.
- **8.2.12.ETW.1:** Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation, and maintenance of a chosen product.
- **8.2.12.ETW.2:** Synthesize and analyze data collected to monitor the effects of a technological product or system on the environment.
- **8.2.12.EC.1**: Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.
- **8.2.12.EC.3**: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.

2020 New Jersey Student Learning Standards – Career Readiness, Life Literacies, and Key Skills

- **9.2 Career Awareness, Exploration, Preparation, and Training**
  - **9.2.12.CAP.1:** Analyze unemployment rates for workers with different levels of education and how the economic, social, and political conditions of a time period are affected by a recession.
  - **9.2.12.CAP.2:** Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
  - **9.2.12.CAP.3:** Investigate how continuing education contributes to one's career and personal growth.

- **9.2.12.CAP.4:** Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
- **9.2.12.CAP.5:** Assess and modify a personal plan to support current interests and postsecondary plans.
- **9.2.12.CAP.6:** Identify transferable skills in career choices and design alternative career plans based on those skills.
- **9.2.12.CAP.7:** Use online resources to examine licensing, certification, and credentialing requirements at the local, state, and national levels to maintain compliance with industry requirements in areas of career interest.
- **9.2.12.CAP.8:** Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors.
- **9.2.12.CAP.9:** Locate information on working papers, what is required to obtain them, and who must sign them.
- **9.2.12.CAP.10:** Identify strategies for reducing overall costs of postsecondary education (e.g., tuition assistance, loans, grants, scholarships, and student loans).

- **9.4 Life Literacies and Key Skills**
  - **9.4.12.CI.1:** Demonstrate the ability to reflect, analyze, and use creative skills and ideas
  - **9.4.12.CI.2:** Identify career pathways that highlight personal talents, skills, and abilities
  - **9.4.12.CI.3:** Investigate new challenges and opportunities for personal growth, advancement, and transition
  - **9.4.12.CT.1:** Identify problem-solving strategies used in the development of an innovative product or practice
  - **9.4.12.CT.2:** Explain the potential benefits of collaborating to enhance critical thinking and problem solving
  - **9.4.12.CT.3:** Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue
  - **9.4.12.CT.4:** Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
  - **9.4.12.IML.1:** Compare search browsers and recognize features that allow for filtering of information.
  - **9.4.12.IML.2:** Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources
  - **9.4.12.TL.3**: Analyze the effectiveness of the process and quality of collaborative environments.
  - **9.4.12.TL.4:** Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem

Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Unit Essential Questions	Unit Enduring Understandings
● What are the roles and daily work habits of the certified athletic trainer? ● What is the importance of the sports medicine team? ● Why do hospitals, recreation centers, gyms, and schools employ sports medicine professionals? Are they necessary? How do they improve care? ● How do professionals in the field of sports medicine prepare to deal with the needs of diverse people and circumstances? Is it enough to have healthy personal habits?	Students will understand… ● The various roles of the certified athletic trainer include the prevention, recognition, evaluation, assessment, immediate, treatment, rehabilitation and reconditioning of athletic injuries, as well as organization and administration duties and professional development. ● The sports medicine teams consists of many healthcare professionals and providers who work together cooperatively in order to provide the best care possible to physically active people who have suffered athletic injury or illness. ● Sports medicine is a broad field that goes well beyond physical training. Healthcare professionals have knowledge and education in the sciences related to the care, treatment, and prevention of sports related injuries. ● To become a certified athletic trainer, you must attend and complete an accredited athletic training education program, must be certified through the Medical Board of Examiners, and meet state licensure and registration requirements.

Evidence of Learning

Formative Assessment:	Summative Assessment:	Resources Needed:
● Do Nows ● Classwork ● Homework ● Performance activities	● Quizzes ● Tests ● Problem-Based Learning Projects ● EMPA	● Fundamentals of Athletic Training ● Google Classroom ●

UNIT 2: Basics of Human Anatomy & Physiology

An understanding of human anatomy is the foundation of many healthcare professions, including that of the certified athletic trainer, or ATC. Students will delve into human anatomy and physiology as it relates to athletic performance. Students will first acquire anatomical terminology; then they examine the functions of the skeletal system, bones, and the muscular system. This leads to an understanding of the mechanisms of injuries incurred by people who participate in sports and

recreational physical activities. Finally, students investigate what constitutes normal movements in order to design appropriate rehabilitation and strength and conditioning programs.

Students will...
Diagram the anatomical planes and describe the anatomical position
Label general muscular and bony anatomy
Describe the functions of skin, bone, muscle, ligament, tendon and cartilage
Describe the types of bones and give examples
Describe the classification of joints and explain the types of motion produced
Explain the various types of soft-tissue injuries
Explain tissue repair and healing
Explain various bone injuries
Explain repair and healing
Create a concept map to represent the decision making processes that a sports medicine professional uses when dealing with injured clients

Standards/Core Ideas/Performance Expectations

2020 New Jersey Student Learning Standards - Comprehensive Health and Physical Education

- **2.2 Physical Wellness**
  - **2.2.12.MSC.1**: Explain and demonstrate ways to apply movement skills from one game, sport, aerobics, or recreational activity to another including striking skills
  - **2.2.12.MSC.2**: Analyze application of force and motion (e.g., weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.
  - **2.2.12.MSC.3**: Design, lead and critique rhythmic and physical activity that includes variations in time, space, force, flow, and relationships (e.g., creative, cultural, social, aerobics dance, fitness).
  - **2.2.12.MSC.4**: Analyze etiquette, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance, participation, and behavior.
  - **2.2.12.PF.1**: Compare the short- and long-term benefits of physical activity and the impact on wellness associated with physical, mental, emotional fitness through one's lifetime.
  - **2.2.12.LF.1**: Apply and share a movement and physical fitness vocabulary that is intrinsic to motivate oneself, to impact family, and others in a community.

2020 New Jersey Student Learning Standards – Science

- **HS-PS2: Motion and Stability: Forces and Interactions**
  - **HS-PS2-1** Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.
  - **HS-PS2-2** Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.
  - **HS-PS2-4** Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects.

- **HS-PS2-6** Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

- **HS-PS3: Energy**
  - **HS-PS3-1** Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.
  - **HS-PS3-2** Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects).
- **HS-LS1: From Molecules to Organisms: Structures and Processes**
  - **HS-LS1-1** Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.
  - **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-LS1-7** 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- LS3: Heredity: Inheritance and Variation of Traits**
  - **HS-LS3-1** Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.
  - **HS-LS3-1** Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.

2020 New Jersey Student Learning Standards – Computer Science and Design Thinking

- **8.1 Computer Science**
  - **8.1.12.IC.1:** Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
  - **8.1.12.IC.3:** Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
  - **8.1.12.DA.1:** Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
  - **8.1.12.DA.2:** Describe the trade-offs in how and where data is organized and stored.
  - **8.1.12.DA.5**: Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
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2020 New Jersey Student Learning Standards – Career Readiness, Life Literacies, and Key Skills

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  - **9.4.12.CT.3:** Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue
  - **9.4.12.CT.4:** Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
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  - **9.4.12.TL.3**: Analyze the effectiveness of the process and quality of collaborative environments.
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Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.
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CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Unit Essential Questions	Unit Enduring Understandings
● Why is a basic understanding of anatomy and physiology essential to healthcare professionals? ● What are the three anatomical planes of the body? ● What is the difference between a sprain and strain? ● What are the stages of soft-tissue and bone healing and what occurs during each one? ● How and where can athletic trainers find health resources and help when needed?	Students will understand… ● Sports medicine professionals equipped with a sound foundation in anatomy and physiology are able to assist clients in reducing risks associated with athletics and in responding to injuries when they occur. ● Anatomy and physiology is essential in patient assessment, treatment and rehabilitation. ● Healthcare professionals use precise medical terminology when talking of a body area, an injury and rehabilitation protocols. ● Different body tissues incur different types of injuries and each type of body tissue has a unique healing process. ● Indications of an injury to soft or bony tissue commonly include pain, swelling and bleeding.

Evidence of Learning

Formative Assessment:	Summative Assessment:	Resources Needed:
● Do Nows ● Classwork ● Homework ● Performance activities/	● Quizzes ● Tests ● Problem-Based Learning Projects	● Fundamentals of Athletic Training ● Google Classroom ●

UNIT 3: Understanding Athletics-Related Injuries to the Lower Extremity

This unit gives an overview of the anatomy, signs and symptoms, and common types of injuries that occur to the hip, pelvis, thigh, knee, lower-leg, ankle and foot during athletic participation. This unit provides information to assist the student in understanding various ways of treating hip, pelvis, thigh, knee, lower-leg, ankle and foot injuries. This unit also discusses the different types of protective equipment that can be used to protect against and prevent these injuries. The lower extremities are subject to tremendous demands during athletic participation making it particularly important for athletic trainers to know how to prevent and treat these areas.

Students will...
Understand and describe the anatomy of the hip, pelvis, thigh, knee, lower-leg, ankle and foot.
Explain the various types of injuries that occur in the hip, pelvis, thigh, knee, lower-leg, ankle and foot. with athletic participation
Identify common signs and symptoms of injuries to the hip, pelvis, thigh, knee, lower-leg, ankle and foot.
Explain the treatments performed by the ATC for specific hip, pelvis, thigh, knee, lower-leg, ankle and foot injuries.
Describe ways to prevent injuries of the hip, pelvis, thigh, knee, lower-leg, ankle and foot.
Create a concept map outlining the decision making processes used during the assessment of the injuries.
Role-play scenarios faced by sports medicine workers.

Standards/Core Ideas/Performance Expectations

2020 New Jersey Student Learning Standards - Comprehensive Health and Physical Education

- **2.1 Personal and Mental Health**
  - **2.1.12.PGD.1**: Develop a health care plan that includes practices and strategies designed to support an active lifestyle, attend to mental health, and foster a healthy, social and emotional life.
  - **2.1.12.EH.3**: Describe strategies to appropriately respond to stressors in a variety of situations (e.g., academics, relationships, shootings, death, car accidents, illness).
  - **2.1.12.EH.4**: Analyze and adapt mental and emotional health messages and communication techniques to peers and other specific target audience (e.g., dimensions of health).
  - **2.1.12.CHSS.1**: Analyze the opportunities available at home, in school, and in the community to support the mental health of oneself or an individual.
  - **2.1.12.CHSS.2**: Develop an advocacy plan for a health issue and share this information with others who can benefit.
  - **2.1.12.CHSS.5**: Analyze a variety of health products and services based on cost, availability, accessibility, benefits and accreditation in the home, school, and in the community (e.g., suicide prevention, breast/testicular self-examination, CPR/AED, life skills training, menstrual products).
  - **2.1.12.CHSS.6**: Evaluate the validity of health information, resources, services, in school, home and in the community.
  - **2.1.12.CHSS.7**: Describe how individuals and local, state, and global advocacy organizations can collaborate to address common local and global health and social issues (e.g., hunger, clean water, organ/tissue donation).
  - **2.1.12.CHSS.9**: Develop an action plan to assist individuals who have feelings of sadness, anxiety, stress, trauma, or depression and share this information with individuals who will benefit.
- **2.2 Physical Wellness**
  - **2.2.12.MSC.2**: Analyze application of force and motion (e.g., weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.
  - **2.2.12.MSC.4**: Analyze etiquette, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance, participation, and behavior.

- **2.2.12.PF.2**: Respect and appreciate all levels of ability and encourage with care during all physical activities.
- **2.2.12.PF.4**: Determine the role of genetics, age, nutrition, sleep, the environment, and exercise type on body composition and personal health (e.g., anabolic steroids, human growth hormones, stimulants).
- **2.2.12.PF.5**: Analyze fitness knowledge in strength, conditioning, agility, and the physiological responses of the energy systems effects on the mind and body before, during, and after physical fitness activities.
- **2.2.12.LF.1**: Apply and share a movement and physical fitness vocabulary that is intrinsic to motivate oneself, to impact family, and others in a community.
- **2.2.12.LF.7**: Analyze the current and future impact of globalization and technology on the influences of participation in sports, games, physical fitness activities, dance, gaming, outdoor adventure, viewing sports, and social and emotional connections.
- **2.2.12.LF.8**: Identify personal and community resources to explore career options related to physical activity and health.

- **2.3 Safety**
  - **2.3.12.PS.1**: Apply a thoughtful decision-making process to evaluate situations and influences that could lead to healthy or unhealthy consequences (e.g., peers, media).
  - **2.3.12.HCDM.1**: Develop a health care plan to help prevent and treat diseases and health conditions one may encounter
  - **2.3.12.HCDM.4**: Evaluate emerging methods to diagnose and treat diseases and health conditions that are common in young adults in the United States and in other countries (e.g., hepatitis, stroke, heart attacks, cancer,).
  - **2.3.12.HCDM.5**: Analyze local, state, and international public health efforts to prevent and control diseases and health conditions (e.g., vaccinations, immunizations, medical exams, gene editing, artificial organ systems, prosthesis).

2020 New Jersey Student Learning Standards – Science

- **HS-PS2: Motion and Stability: Forces and Interactions**
  - **HS-PS2-3** Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.
  - **HS-PS2-6** Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.
- **HS- LS3: Heredity: Inheritance and Variation of Traits**
  - **HS-LS3-1** Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.
  - **HS-LS3-1** Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.
- **HS- ETS1: Engineering Design**
  - **HS-ETS1-1** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
  - **HS-ETS1-2** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

- **HS-ETS1-3** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
- **HS-ETS1-4** Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

2020 New Jersey Student Learning Standards – Computer Science and Design Thinking

- **8.1 Computer Science**
  - **8.1.12.IC.1:** Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
  - **8.1.12.IC.3:** Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
  - **8.1.12.DA.1:** Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
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  - **8.2.12.ED.3:** Evaluate several models of the same type of product and make recommendations for a new design based on a cost benefit analysis.
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  - **8.2.12.ITH.3:** Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.
  - **8.2.12.NT.1:** Explain how different groups can contribute to the overall design of a product.

- **8.2.12.NT.2:** Redesign an existing product to improve form or function.
- **8.2.12.ETW.1:** Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation, and maintenance of a chosen product.
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  - **9.2.12.CAP.3:** Investigate how continuing education contributes to one's career and personal growth.
  - **9.2.12.CAP.4:** Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
  - **9.2.12.CAP.5:** Assess and modify a personal plan to support current interests and postsecondary plans.
  - **9.2.12.CAP.6:** Identify transferable skills in career choices and design alternative career plans based on those skills.
  - **9.2.12.CAP.7:** Use online resources to examine licensing, certification, and credentialing requirements at the local, state, and national levels to maintain compliance with industry requirements in areas of career interest.
  - **9.2.12.CAP.8:** Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors.
  - **9.2.12.CAP.9:** Locate information on working papers, what is required to obtain them, and who must sign them.
  - **9.2.12.CAP.10:** Identify strategies for reducing overall costs of postsecondary education (e.g., tuition assistance, loans, grants, scholarships, and student loans).
- **9.4 Life Literacies and Key Skills**
  - **9.4.12.CI.1:** Demonstrate the ability to reflect, analyze, and use creative skills and ideas
  - **9.4.12.CI.2:** Identify career pathways that highlight personal talents, skills, and abilities

- **9.4.12.CI.3:** Investigate new challenges and opportunities for personal growth, advancement, and transition
- **9.4.12.CT.1:** Identify problem-solving strategies used in the development of an innovative product or practice
- **9.4.12.CT.2:** Explain the potential benefits of collaborating to enhance critical thinking and problem solving
- **9.4.12.CT.3:** Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue
- **9.4.12.CT.4:** Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
- **9.4.12.IML.1:** Compare search browsers and recognize features that allow for filtering of information.
- **9.4.12.IML.2:** Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources
- **9.4.12.TL.3**: Analyze the effectiveness of the process and quality of collaborative environments.
- **9.4.12.TL.4:** Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Unit Essential Questions	Unit Enduring Understandings
● How do the decisions of sports medicine professionals impact their clients' wellness? ● What are the methodological steps in evaluating and assessing injury or illness? ● What are the proper treatment and rehabilitative protocols for common athletic injuries?	Students will understand… ● Sports medicine professionals equipped with a sound foundation in the anatomy and physiology of the lower extremity associated with athletics are able to advise clients and assist them when injured. ● The sports medicine professional should utilize the SOAP method in assessing athletic injuries and illnesses. ● There are standard protocols in the sports medicine field including therapeutic modalities, exercise prescription and first

	aid procedures that should be used to treat common athletic injuries of the lower extremity.

Evidence of Learning		
Formative Assessment: ● Do Nows ● Classwork ● Homework ● Performance activities/	**Summative Assessment:** ● Quizzes ● Tests ● Problem-Based Learning Projects ● EMPA	**Resources Needed:** ● Google Classroom ●

UNIT 4: Understanding Athletics-Related Injuries to the Upper Extremity

This unit gives an overview of the anatomy, signs and symptoms, and common types of injuries that occur to the shoulder, elbow, wrist, hand and fingers during athletic participation. This unit provides information to assist the student in understanding various types of treatment and prevention therapies. This unit also discusses the different types of protective equipment that can be used to protect against these injuries.

Students will...

Understand and describe the anatomy of the shoulder, elbow, wrist, hand and fingers.

Explain the various types of injuries that occur in the shoulder, elbow, wrist, hand and fingers with athletic participation

Identify common signs and symptoms of injuries to the shoulder, elbow, wrist, hand and fingers.

Describe the care necessary to treat injuries of the shoulder, elbow, wrist, hand and fingers.

Describe ways to prevent injuries of the shoulder, elbow, wrist, hand and fingers.

Create a concept map outlining the decision making processes used during the assessment of the injuries.

Role-play scenarios faced by sports medicine workers.

Standards/Core Ideas/Performance Expectations

2020 New Jersey Student Learning Standards - Comprehensive Health and Physical Education

- **2.1 Personal and Mental Health**
  - **2.1.12.PGD.1**: Develop a health care plan that includes practices and strategies designed to support an active lifestyle, attend to mental health, and foster a healthy, social and emotional life.
  - **2.1.12.EH.3**: Describe strategies to appropriately respond to stressors in a variety of situations (e.g., academics, relationships, shootings, death, car accidents, illness).
  - **2.1.12.EH.4**: Analyze and adapt mental and emotional health messages and communication techniques to peers and other specific target audience (e.g., dimensions of health).
  - **2.1.12.CHSS.1**: Analyze the opportunities available at home, in school, and in the community to support the mental health of oneself or an individual.
  - **2.1.12.CHSS.2**: Develop an advocacy plan for a health issue and share this information with others who can benefit.

- **2.1.12.CHSS.5**: Analyze a variety of health products and services based on cost, availability, accessibility, benefits and accreditation in the home, school, and in the community (e.g., suicide prevention, breast/testicular self-examination, CPR/AED, life skills training, menstrual products).
- **2.1.12.CHSS.6**: Evaluate the validity of health information, resources, services, in school, home and in the community.
- **2.1.12.CHSS.7**: Describe how individuals and local, state, and global advocacy organizations can collaborate to address common local and global health and social issues (e.g., hunger, clean water, organ/tissue donation).
- **2.1.12.CHSS.9**: Develop an action plan to assist individuals who have feelings of sadness, anxiety, stress, trauma, or depression and share this information with individuals who will benefit.

- **2.2 Physical Wellness**
  - **2.2.12.MSC.2**: Analyze application of force and motion (e.g., weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.
  - **2.2.12.MSC.4**: Analyze etiquette, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance, participation, and behavior.
  - **2.2.12.PF.2**: Respect and appreciate all levels of ability and encourage with care during all physical activities.
  - **2.2.12.PF.4**: Determine the role of genetics, age, nutrition, sleep, the environment, and exercise type on body composition and personal health (e.g., anabolic steroids, human growth hormones, stimulants).
  - **2.2.12.PF.5**: Analyze fitness knowledge in strength, conditioning, agility, and the physiological responses of the energy systems effects on the mind and body before, during, and after physical fitness activities.
  - **2.2.12.LF.1**: Apply and share a movement and physical fitness vocabulary that is intrinsic to motivate oneself, to impact family, and others in a community.
  - **2.2.12.LF.7**: Analyze the current and future impact of globalization and technology on the influences of participation in sports, games, physical fitness activities, dance, gaming, outdoor adventure, viewing sports, and social and emotional connections.
  - **2.2.12.LF.8**: Identify personal and community resources to explore career options related to physical activity and health.
- **2.3 Safety**
  - **2.3.12.PS.1**: Apply a thoughtful decision-making process to evaluate situations and influences that could lead to healthy or unhealthy consequences (e.g., peers, media).
  - **2.3.12.HCDM.1**: Develop a health care plan to help prevent and treat diseases and health conditions one may encounter
  - **2.3.12.HCDM.4**: Evaluate emerging methods to diagnose and treat diseases and health conditions that are common in young adults in the United States and in other countries (e.g., hepatitis, stroke, heart attacks, cancer,).

- **2.3.12.HCDM.5**: Analyze local, state, and international public health efforts to prevent and control diseases and health conditions (e.g., vaccinations, immunizations, medical exams, gene editing, artificial organ systems, prosthesis).

2020 New Jersey Student Learning Standards – Science

- **HS-PS2: Motion and Stability: Forces and Interactions**
  - **HS-PS2-3** Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.
  - **HS-PS2-6** Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.
- **HS- LS3: Heredity: Inheritance and Variation of Traits**
  - **HS-LS3-1** Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.
  - **HS-LS3-1** Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.
- **HS- ETS1: Engineering Design**
  - **HS-ETS1-1** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
  - **HS-ETS1-2** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
  - **HS-ETS1-3** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
  - **HS-ETS1-4** Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

2020 New Jersey Student Learning Standards – Computer Science and Design Thinking

- **8.1 Computer Science**
  - **8.1.12.IC.1:** Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
  - **8.1.12.IC.3:** Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
  - **8.1.12.DA.1:** Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
  - **8.1.12.DA.2:** Describe the trade-offs in how and where data is organized and stored.
  - **8.1.12.DA.5**: Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
  - **8.1.12.DA.6**: Create and refine computational models to better represent the relationships among different elements of data collected from a phenomenon or process.
- **8.2 Design Thinking**
  - **8.2.12.ED.1:** Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.

- **8.2.12.ED.3:** Evaluate several models of the same type of product and make recommendations for a new design based on a cost benefit analysis.
- **8.2.12.ED.4:** Design a product or system that addresses a global problem and document decisions made based on research, constraints, trade-offs, and aesthetic and ethical considerations and share this information with an appropriate audience.
- **8.2.12.ED.5**: Evaluate the effectiveness of a product or system based on factors that are related to its requirements, specifications, and constraints (e.g., safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, ergonomics).
- **8.2.12.ED.6**: Analyze the effects of changing resources when designing a specific product or system (e.g., materials, energy, tools, capital, labor).
- **8.2.12.ITH.1:** Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
- **8.2.12.ITH.2:** Propose an innovation to meet future demands supported by an analysis of the potential costs, benefits, trade-offs, and risks related to the use of the innovation.
- **8.2.12.ITH.3:** Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.
- **8.2.12.NT.1:** Explain how different groups can contribute to the overall design of a product.
- **8.2.12.NT.2:** Redesign an existing product to improve form or function.
- **8.2.12.ETW.1:** Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation, and maintenance of a chosen product.
- **8.2.12.ETW.2:** Synthesize and analyze data collected to monitor the effects of a technological product or system on the environment.
- **8.2.12.EC.1**: Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.
- **8.2.12.EC.3**: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.

2020 New Jersey Student Learning Standards – Career Readiness, Life Literacies, and Key Skills

- **9.2 Career Awareness, Exploration, Preparation, and Training**
  - **9.2.12.CAP.1:** Analyze unemployment rates for workers with different levels of education and how the economic, social, and political conditions of a time period are affected by a recession.
  - **9.2.12.CAP.2:** Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
  - **9.2.12.CAP.3:** Investigate how continuing education contributes to one's career and personal growth.

- **9.2.12.CAP.4:** Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
- **9.2.12.CAP.5:** Assess and modify a personal plan to support current interests and postsecondary plans.
- **9.2.12.CAP.6:** Identify transferable skills in career choices and design alternative career plans based on those skills.
- **9.2.12.CAP.7:** Use online resources to examine licensing, certification, and credentialing requirements at the local, state, and national levels to maintain compliance with industry requirements in areas of career interest.
- **9.2.12.CAP.8:** Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors.
- **9.2.12.CAP.9:** Locate information on working papers, what is required to obtain them, and who must sign them.
- **9.2.12.CAP.10:** Identify strategies for reducing overall costs of postsecondary education (e.g., tuition assistance, loans, grants, scholarships, and student loans).

- **9.4 Life Literacies and Key Skills**
  - **9.4.12.CI.1:** Demonstrate the ability to reflect, analyze, and use creative skills and ideas
  - **9.4.12.CI.2:** Identify career pathways that highlight personal talents, skills, and abilities
  - **9.4.12.CI.3:** Investigate new challenges and opportunities for personal growth, advancement, and transition
  - **9.4.12.CT.1:** Identify problem-solving strategies used in the development of an innovative product or practice
  - **9.4.12.CT.2:** Explain the potential benefits of collaborating to enhance critical thinking and problem solving
  - **9.4.12.CT.3:** Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue
  - **9.4.12.CT.4:** Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
  - **9.4.12.IML.1:** Compare search browsers and recognize features that allow for filtering of information.
  - **9.4.12.IML.2:** Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources
  - • **9.4.12.TL.3**: Analyze the effectiveness of the process and quality of collaborative environments.
  - **9.4.12.TL.4:** Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem

Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Unit Essential Questions	Unit Enduring Understandings
● How do the decisions of sports medicine professionals impact their clients' wellness? ● What are the methodological steps in evaluating and assessing injury or illness? ● What are the proper treatment and rehabilitative protocols for common athletic injuries?	Students will understand… ● Sports medicine professionals equipped with a sound foundation in the anatomy and physiology of the lower extremity associated with athletics are able to advise clients and assist them when injured. ● The sports medicine professional should utilize the SOAP method in assessing athletic injuries and illnesses. ● There are standard protocols in the sports medicine field including therapeutic modalities, exercise prescription and first aid procedures that should be used to treat common athletic injuries of the upper extremity.

Evidence of Learning

Formative Assessment:	Summative Assessment:	Resources Needed:
● Do Nows ● Classwork ● Homework ● Performance activities/	● Quizzes ● Tests ● Problem-Based Learning Projects	● Google Classroom ●

UNIT 5: Understanding Athletics-Related Injuries to the Axial Region

This unit gives an overview of the anatomy, signs and symptoms, and common types of injuries that occur to the head, face, throat, thorax, abdomen and spine during athletic participation. This unit provides information to assist the student in understanding various types of treatment and prevention therapies. This unit also discusses the different types of protective equipment that can be used to protect against these injuries. Some injuries to the axial skeleton can become life-threatening therefore students will also get

Students will...
Understand and describe the anatomy of the head, face, throat, thorax, abdomen and spine.
Explain the various types of injuries that occur in the head, face, thorax, abdomen and spine with athletic participation
Identify common signs and symptoms of injuries to the head, face, throat, thorax, abdomen and spine.

Describe the care necessary to treat injuries of the head, face, throat, thorax, abdomen and spine.
Describe ways how to prevent injuries of the head, face, throat, thorax, abdomen and spine.
Understand that head injuries can be prevented.
Understand the urgency involved with caring for brain injuries.
Understand the implications of illness or injury related to a specific organ in the thorax or abdomen
Describe common postural problems

Standards/Core Ideas/Performance Expectations

2020 New Jersey Student Learning Standards - Comprehensive Health and Physical Education

- **2.1 Personal and Mental Health**
  - **2.1.12.PGD.1**: Develop a health care plan that includes practices and strategies designed to support an active lifestyle, attend to mental health, and foster a healthy, social and emotional life.
  - **2.1.12.EH.3**: Describe strategies to appropriately respond to stressors in a variety of situations (e.g., academics, relationships, shootings, death, car accidents, illness).
  - **2.1.12.EH.4**: Analyze and adapt mental and emotional health messages and communication techniques to peers and other specific target audience (e.g., dimensions of health).
  - **2.1.12.CHSS.1**: Analyze the opportunities available at home, in school, and in the community to support the mental health of oneself or an individual.
  - **2.1.12.CHSS.2**: Develop an advocacy plan for a health issue and share this information with others who can benefit.
  - **2.1.12.CHSS.5**: Analyze a variety of health products and services based on cost, availability, accessibility, benefits and accreditation in the home, school, and in the community (e.g., suicide prevention, breast/testicular self-examination, CPR/AED, life skills training, menstrual products).
  - **2.1.12.CHSS.6**: Evaluate the validity of health information, resources, services, in school, home and in the community.
  - **2.1.12.CHSS.7**: Describe how individuals and local, state, and global advocacy organizations can collaborate to address common local and global health and social issues (e.g., hunger, clean water, organ/tissue donation).
  - **2.1.12.CHSS.9**: Develop an action plan to assist individuals who have feelings of sadness, anxiety, stress, trauma, or depression and share this information with individuals who will benefit.
- **2.2 Physical Wellness**
  - **2.2.12.MSC.2**: Analyze application of force and motion (e.g., weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.
  - **2.2.12.MSC.4**: Analyze etiquette, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance, participation, and behavior.
  - **2.2.12.PF.2**: Respect and appreciate all levels of ability and encourage with care during all physical activities.

- **2.2.12.PF.4**: Determine the role of genetics, age, nutrition, sleep, the environment, and exercise type on body composition and personal health (e.g., anabolic steroids, human growth hormones, stimulants).
- **2.2.12.PF.5**: Analyze fitness knowledge in strength, conditioning, agility, and the physiological responses of the energy systems effects on the mind and body before, during, and after physical fitness activities.
- **2.2.12.LF.1**: Apply and share a movement and physical fitness vocabulary that is intrinsic to motivate oneself, to impact family, and others in a community.
- **2.2.12.LF.7**: Analyze the current and future impact of globalization and technology on the influences of participation in sports, games, physical fitness activities, dance, gaming, outdoor adventure, viewing sports, and social and emotional connections.
- **2.2.12.LF.8**: Identify personal and community resources to explore career options related to physical activity and health.

- **2.3 Safety**
  - **2.3.12.PS.1**: Apply a thoughtful decision-making process to evaluate situations and influences that could lead to healthy or unhealthy consequences (e.g., peers, media).
  - **2.3.12.HCDM.1**: Develop a health care plan to help prevent and treat diseases and health conditions one may encounter
  - **2.3.12.HCDM.4**: Evaluate emerging methods to diagnose and treat diseases and health conditions that are common in young adults in the United States and in other countries (e.g., hepatitis, stroke, heart attacks, cancer,).
  - **2.3.12.HCDM.5**: Analyze local, state, and international public health efforts to prevent and control diseases and health conditions (e.g., vaccinations, immunizations, medical exams, gene editing, artificial organ systems, prosthesis).

2020 New Jersey Student Learning Standards – Science

- **HS-PS2: Motion and Stability: Forces and Interactions**
  - **HS-PS2-3** Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.
  - **HS-PS2-6** Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.
- **HS- LS3: Heredity: Inheritance and Variation of Traits**
  - **HS-LS3-1** Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.
  - **HS-LS3-1** Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.
- **HS- ETS1: Engineering Design**
  - **HS-ETS1-1** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
  - **HS-ETS1-2** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
  - **HS-ETS1-3** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

- **HS-ETS1-4** Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

2020 New Jersey Student Learning Standards – Computer Science and Design Thinking

- **8.1 Computer Science**
  - **8.1.12.IC.1:** Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
  - **8.1.12.IC.3:** Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
  - **8.1.12.DA.1:** Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
  - **8.1.12.DA.2:** Describe the trade-offs in how and where data is organized and stored.
  - **8.1.12.DA.5**: Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
  - **8.1.12.DA.6**: Create and refine computational models to better represent the relationships among different elements of data collected from a phenomenon or process.
- **8.2 Design Thinking**
  - **8.2.12.ED.1:** Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.
  - **8.2.12.ED.3:** Evaluate several models of the same type of product and make recommendations for a new design based on a cost benefit analysis.
  - **8.2.12.ED.4:** Design a product or system that addresses a global problem and document decisions made based on research, constraints, trade-offs, and aesthetic and ethical considerations and share this information with an appropriate audience.
  - **8.2.12.ED.5**: Evaluate the effectiveness of a product or system based on factors that are related to its requirements, specifications, and constraints (e.g., safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, ergonomics).
  - **8.2.12.ED.6**: Analyze the effects of changing resources when designing a specific product or system (e.g., materials, energy, tools, capital, labor).
  - **8.2.12.ITH.1:** Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
  - **8.2.12.ITH.2:** Propose an innovation to meet future demands supported by an analysis of the potential costs, benefits, trade-offs, and risks related to the use of the innovation.
  - **8.2.12.ITH.3:** Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.
  - **8.2.12.NT.1:** Explain how different groups can contribute to the overall design of a product.
  - **8.2.12.NT.2:** Redesign an existing product to improve form or function.

- **8.2.12.ETW.1:** Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation, and maintenance of a chosen product.
- **8.2.12.ETW.2:** Synthesize and analyze data collected to monitor the effects of a technological product or system on the environment.
- **8.2.12.EC.1**: Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.
- **8.2.12.EC.3**: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.

2020 New Jersey Student Learning Standards – Career Readiness, Life Literacies, and Key Skills

- **9.2 Career Awareness, Exploration, Preparation, and Training**
  - **9.2.12.CAP.1:** Analyze unemployment rates for workers with different levels of education and how the economic, social, and political conditions of a time period are affected by a recession.
  - **9.2.12.CAP.2:** Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
  - **9.2.12.CAP.3:** Investigate how continuing education contributes to one's career and personal growth.
  - **9.2.12.CAP.4:** Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
  - **9.2.12.CAP.5:** Assess and modify a personal plan to support current interests and postsecondary plans.
  - **9.2.12.CAP.6:** Identify transferable skills in career choices and design alternative career plans based on those skills.
  - **9.2.12.CAP.7:** Use online resources to examine licensing, certification, and credentialing requirements at the local, state, and national levels to maintain compliance with industry requirements in areas of career interest.
  - **9.2.12.CAP.8:** Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors.
  - **9.2.12.CAP.9:** Locate information on working papers, what is required to obtain them, and who must sign them.
  - **9.2.12.CAP.10:** Identify strategies for reducing overall costs of postsecondary education (e.g., tuition assistance, loans, grants, scholarships, and student loans).
- **9.4 Life Literacies and Key Skills**
  - **9.4.12.CI.1:** Demonstrate the ability to reflect, analyze, and use creative skills and ideas
  - **9.4.12.CI.2:** Identify career pathways that highlight personal talents, skills, and abilities

- **9.4.12.CI.3:** Investigate new challenges and opportunities for personal growth, advancement, and transition
- **9.4.12.CT.1:** Identify problem-solving strategies used in the development of an innovative product or practice
- **9.4.12.CT.2:** Explain the potential benefits of collaborating to enhance critical thinking and problem solving
- **9.4.12.CT.3:** Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue
- **9.4.12.CT.4:** Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
- **9.4.12.IML.1:** Compare search browsers and recognize features that allow for filtering of information.
- **9.4.12.IML.2:** Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources
- **• 9.4.12.TL.3**: Analyze the effectiveness of the process and quality of collaborative environments.
- **9.4.12.TL.4:** Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Unit Essential Questions	Unit Enduring Understandings
● How do the decisions of sports medicine professionals impact their clients' wellness? ● What are the methodological steps in evaluating and assessing injury or illness?	Students will understand… ● Sports medicine professionals equipped with a sound foundation in the anatomy and physiology of the lower extremity associated with athletics are able to advise clients and assist them when injured. ● The sports medicine professional should utilize the SOAP method in assessing athletic injuries and illnesses.

● What are the proper treatment and rehabilitative protocols for common athletic injuries?	● There are standard protocols in the sports medicine field including therapeutic modalities, exercise prescription and first aid procedures that should be used to treat common athletic injuries of the axial region.

Evidence of Learning		
Formative Assessment: ● Do Nows ● Classwork ● Homework ● Performance activities/	**Summative Assessment:** ● Quizzes ● Tests ● Problem-Based Learning Projects	**Resources Needed:** ● Google Classroom ●

UNIT 6: Rehabilitation and Reconditioning of Athletic Related Injuries
In this unit, students address the role of the sports medicine professional in the rehabilitation and reconditioning of sports related injuries. This unit is an overview of how to get an athlete back into action following an injury and students also take a glimpse into the psychological considerations that apply to rehabilitation and athletic participation. They gain an understanding of the principles of training and conditioning relative to flexibility, strength, and cardiovascular endurance. Further, they explore the concept of periodization and value of continual conditioning.
Students will... Describe the components of a SOAP note for medical documentation and explain how it relates to the rehabilitation program. Identify the elements of physical function that should be included in a comprehensive therapeutic exercise program. Explain how to develop a therapeutic exercise program. Define passive, active-assistive and active range of motion. Compare muscular strength and endurance and explain how to develop each. Compare and contrast therapeutic modalities and explain the benefits of each. Explain the principles of strength training. Identify the various ways to develop strength. Compare muscular strength and endurance and explain how to develop each. Discuss the principles behind developing cardiovascular fitness. Identify appropriate exercises for rehabilitating specific conditions of the upper quarter, lower quarter, and trunk region. Identify common safety procedures for weight training. Have a broad understanding and appreciation for sport psychology. Describe practical strategies to help an athlete better cope with an injury.
Standards/Core Ideas/Performance Expectations
2020 New Jersey Student Learning Standards - Comprehensive Health and Physical Education ● **2.1 Personal and Mental Health**

- **2.1.12.PGD.1**: Develop a health care plan that includes practices and strategies designed to support an active lifestyle, attend to mental health, and foster a healthy, social and emotional life.
- **2.1.12.EH.1**: Recognize one's personal traits, strengths, and limitations and identify how to develop skills to support a healthy lifestyle.
- **2.1.12.EH.3**: Describe strategies to appropriately respond to stressors in a variety of situations (e.g., academics, relationships, shootings, death, car accidents, illness).
- **2.1.12.EH.4**: Analyze and adapt mental and emotional health messages and communication techniques to peers and other specific target audience (e.g., dimensions of health).
- **2.1.12.CHSS.1**: Analyze the opportunities available at home, in school, and in the community to support the mental health of oneself or an individual.
- **2.1.12.CHSS.2**: Develop an advocacy plan for a health issue and share this information with others who can benefit.
- **2.1.12.CHSS.5**: Analyze a variety of health products and services based on cost, availability, accessibility, benefits and accreditation in the home, school, and in the community
- **2.1.12.CHSS.6**: Evaluate the validity of health information, resources, services, in school, home and in the community.
- **2.1.12.CHSS.9**: Develop an action plan to assist individuals who have feelings of sadness, anxiety, stress, trauma, or depression and share this information with individuals who will benefit.

- **2.2 Physical Wellness**
  - **2.2.12.MSC.1**: Explain and demonstrate ways to apply movement skills from one game, sport, aerobics, or recreational activity to another including striking skills
  - **2.2.12.MSC.2**: Analyze application of force and motion (e.g., weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.
  - **2.2.12.MSC.3**: Design, lead and critique rhythmic and physical activity that includes variations in time, space, force, flow, and relationships (e.g., creative, cultural, social, aerobics dance, fitness).
  - **2.2.12.MSC.4**: Analyze etiquette, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance, participation, and behavior.
  - **2.2.12.MSC.5**: Develop rule changes to existing games, sports, and activities that enhance participation, safety, and enjoyment.
  - **2.2.12.PF.1**: Compare the short- and long-term benefits of physical activity and the impact on wellness associated with physical, mental, emotional fitness through one's lifetime.
  - **2.2.12.PF.2**: Respect and appreciate all levels of ability and encourage with care during all physical activities.
  - **2.2.12.PF.3:** Design and implement a personal fitness plan, using evidence and evaluate how that reflects knowledge and application of fitness-training principals (FITT) and the components of skill related fitness.

- **2.2.12.PF.4**: Determine the role of genetics, age, nutrition, sleep, the environment, and exercise type on body composition and personal health (e.g., anabolic steroids, human growth hormones, stimulants).
- **2.2.12.PF.5**: Analyze fitness knowledge in strength, conditioning, agility, and the physiological responses of the energy systems effects on the mind and body before, during, and after physical fitness activities.
- **2.2.12.LF.1**: Apply and share a movement and physical fitness vocabulary that is intrinsic to motivate oneself, to impact family, and others in a community.
- **2.2.12.LF.2**: Develop a sense of openness and willingness when participating in physical fitness activity to share and learn experiences from your own and other cultures.
- **2.2.12.LF.3**: Examine building to a level of fitness to successfully participate in a range of different physical activities during a lifetime.
- **2.2.12.LF.4**: Exhibit responsible social behavior by including and cooperating with classmates of all skill levels, assisting when needed, and collaborating respectfully to solve problems in groups, teams, and in pairs during physical activity.
- **2.2.12.LF.5**: Describe the social benefits gained from participating in physical activity (e.g., meeting someone, making friends, team work, building trust, experiencing something new).
- **2.2.12.LF.6**: Implement a financial plan for participation in physical activity in the community for self and family members.
- **2.2.12.LF.7**: Analyze the current and future impact of globalization and technology on the influences of participation in sports, games, physical fitness activities, dance, gaming, outdoor adventure, viewing sports, and social and emotional connections.
- **2.2.12.LF.8**: Identify personal and community resources to explore career options related to physical activity and health.

- **2.3 Safety**
  - **2.3.12.PS.1**: Apply a thoughtful decision-making process to evaluate situations and influences that could lead to healthy or unhealthy consequences (e.g., peers, media).
  - **2.3.12.HCDM.1**: Develop a health care plan to help prevent and treat diseases and health conditions one may encounter (e.g., breast/testicular exams, Pap smear, regular STIs testing, HPV vaccine).
  - **2.3.12.HCDM.2**: Provide examples of how drugs and medication mimic or block the action of certain cells in the body, and how abusing drugs can affect the human body.
  - **2.3.12.HCDM.4**: Evaluate emerging methods to diagnose and treat diseases and health conditions that are common in young adults in the United States and in other countries (e.g., hepatitis, stroke, heart attacks, cancer,).
  - **2.3.12.HCDM.5**: Analyze local, state, and international public health efforts to prevent and control diseases and health conditions (e.g., vaccinations, immunizations, medical exams, gene editing, artificial organ systems, prosthesis).

2020 New Jersey Student Learning Standards – Science

- **HS-PS2: Motion and Stability: Forces and Interactions**

    - **HS-PS2-1** Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.
    - **HS-PS2-2** Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.
    - **HS-PS2-3** Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.
    - **HS-PS2-4** Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects.
- **HS-PS3: Energy**
    - **HS-PS3-2** Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects).
    - **HS-PS3-4** Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).
    - **HS-PS3-5** Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction.
- **HS- PS4: Waves and Their Applications in Technologies for Information Transfer**
    - **HS-PS4-1** Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.
    - **HS-PS4-2** Evaluate questions about the advantages of using a digital transmission and storage of information.
    - **HS-PS4-3** Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.
    - **HS-PS4-4** Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.
    - **HS-PS4-5** Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.
- **HS-LS1: From Molecules to Organisms: Structures and Processes**
    - **HS-LS1-1** Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.
    - **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-LS1-7** 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: Ecosystems: Interactions, Energy, and Dynamics**
    - **HS-LS2-1** Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.
    - **HS-LS2-1** Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.
    - **HS-LS2-1** Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.
- **HS- ETS1: Engineering Design**
    - **HS-ETS1-1** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
    - **HS-ETS1-2** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
    - **HS-ETS1-3** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
    - **HS-ETS1-4** Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

2020 New Jersey Student Learning Standards – Computer Science and Design Thinking

- **8.1 Computer Science**
    - **8.1.12.IC.1:** Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
    - **8.1.12.IC.3:** Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
    - **8.1.12.DA.1:** Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
    - **8.1.12.DA.2:** Describe the trade-offs in how and where data is organized and stored.
    - **8.1.12.DA.5**: Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
    - **8.1.12.DA.6**: Create and refine computational models to better represent the relationships among different elements of data collected from a phenomenon or process.
- **8.2 Design Thinking**
    - **8.2.12.ED.1:** Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.
    - **8.2.12.ED.3:** Evaluate several models of the same type of product and make recommendations for a new design based on a cost benefit analysis.

- **8.2.12.ED.4:** Design a product or system that addresses a global problem and document decisions made based on research, constraints, trade-offs, and aesthetic and ethical considerations and share this information with an appropriate audience.
- **8.2.12.ED.5**: Evaluate the effectiveness of a product or system based on factors that are related to its requirements, specifications, and constraints (e.g., safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, ergonomics).
- **8.2.12.ED.6**: Analyze the effects of changing resources when designing a specific product or system (e.g., materials, energy, tools, capital, labor).
- **8.2.12.ITH.1:** Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
- **8.2.12.ITH.2:** Propose an innovation to meet future demands supported by an analysis of the potential costs, benefits, trade-offs, and risks related to the use of the innovation.
- **8.2.12.ITH.3:** Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.
- **8.2.12.NT.1:** Explain how different groups can contribute to the overall design of a product.
- **8.2.12.NT.2:** Redesign an existing product to improve form or function.
- **8.2.12.ETW.1:** Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation, and maintenance of a chosen product.
- **8.2.12.ETW.2:** Synthesize and analyze data collected to monitor the effects of a technological product or system on the environment.
- **8.2.12.EC.1**: Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.
- **8.2.12.EC.3**: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.

2020 New Jersey Student Learning Standards – Career Readiness, Life Literacies, and Key Skills

- **9.2 Career Awareness, Exploration, Preparation, and Training**
  - **9.2.12.CAP.1:** Analyze unemployment rates for workers with different levels of education and how the economic, social, and political conditions of a time period are affected by a recession.
  - **9.2.12.CAP.2:** Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
  - **9.2.12.CAP.3:** Investigate how continuing education contributes to one's career and personal growth.

- **9.2.12.CAP.4:** Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
- **9.2.12.CAP.5:** Assess and modify a personal plan to support current interests and postsecondary plans.
- **9.2.12.CAP.6:** Identify transferable skills in career choices and design alternative career plans based on those skills.
- **9.2.12.CAP.7:** Use online resources to examine licensing, certification, and credentialing requirements at the local, state, and national levels to maintain compliance with industry requirements in areas of career interest.
- **9.2.12.CAP.8:** Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors.
- **9.2.12.CAP.9:** Locate information on working papers, what is required to obtain them, and who must sign them.
- **9.2.12.CAP.10:** Identify strategies for reducing overall costs of postsecondary education (e.g., tuition assistance, loans, grants, scholarships, and student loans).

- **9.4 Life Literacies and Key Skills**
  - **9.4.12.CI.1:** Demonstrate the ability to reflect, analyze, and use creative skills and ideas
  - **9.4.12.CI.2:** Identify career pathways that highlight personal talents, skills, and abilities
  - **9.4.12.CI.3:** Investigate new challenges and opportunities for personal growth, advancement, and transition
  - **9.4.12.CT.1:** Identify problem-solving strategies used in the development of an innovative product or practice
  - **9.4.12.CT.2:** Explain the potential benefits of collaborating to enhance critical thinking and problem solving
  - **9.4.12.CT.3:** Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue
  - **9.4.12.CT.4:** Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
  - **9.4.12.IML.1:** Compare search browsers and recognize features that allow for filtering of information.
  - **9.4.12.IML.2:** Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources
  - • **9.4.12.TL.3**: Analyze the effectiveness of the process and quality of collaborative environments.
  - **9.4.12.TL.4:** Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Unit Essential Questions	Unit Enduring Understandings
● How do the decisions of sports medicine professionals impact their clients' wellness? ● What are the methodological steps in evaluating and assessing injury or illness? ● What are the proper treatment and rehabilitative protocols for common athletic injuries?	Students will understand… ● Sports medicine professionals equipped with a sound foundation in the anatomy and physiology of the lower extremity associated with athletics are able to advise clients and assist them when injured. ● The sports medicine professional should utilize the SOAP method in assessing athletic injuries and illnesses. ● There are standard protocols in the sports medicine field including therapeutic modalities, exercise prescription and first aid procedures that should be used to treat common athletic injuries of the lower extremity.

Evidence of Learning

Formative Assessment:	Summative Assessment:	Resources Needed:
● Do Nows ● Classwork ● Homework ● Performance activities/	● Quizzes ● Tests ● Problem-Based Learning Projects	● Google Classroom ●

UNIT 7: Providing Emergency Care

In this unit, students examine risks associated with participation in sports and recreational activities. Further, they discuss how to plan for an emergency and learn to assess wounds, injuries, shock, injuries to bones, muscles, and joints. Students focus on the elements of sound decision-making when confronted with emergency situations. Next, students explore ways in planning for and recognizing emergencies and administering appropriate care. Finally, students learn protocols and procedures for dealing with situations that involve resuscitation. They simulate emergency settings they might encounter as sports medicine professionals and develop guides for others to follow when confronted with the same or similar problems.

Students will...

Describe the principles of developing a crisis plan.
Explain why crisis plans are necessary.
Design a basic crisis plan.
Understand the role of the athletic training student during a crisis.
Explain the difference between primary and secondary assessment.
Explain the difference between signs and symptoms.
Explain the ABCs of a life-threatening emergency.
Define the procedure used to restart breathing once it has stopped. Explain the types of illnesses or injuries that cause breathing and the heart to stop.
Explain when cardiopulmonary resuscitation is used.
Explain what precautions can be taken to prevent communicable diseases.
Ask the basic questions for obtaining the history of an injury or illness.
Determine whether an injury can cause shock.
Describe the procedures that the athletic trainer uses when testing an athlete's injury.

Standards/Core Ideas/Performance Expectations

2020 New Jersey Student Learning Standards - Comprehensive Health and Physical Education

- **2.1 Personal and Mental Health**
  - **2.1.12.PGD.1**: Develop a health care plan that includes practices and strategies designed to support an active lifestyle, attend to mental health, and foster a healthy, social and emotional life.
  - **2.1.12.EH.1**: Recognize one's personal traits, strengths, and limitations and identify how to develop skills to support a healthy lifestyle.
  - **2.1.12.CHSS.2**: Develop an advocacy plan for a health issue and share this information with others who can benefit.
  - **2.1.12.CHSS.5**: Analyze a variety of health products and services based on cost, availability, accessibility, benefits and accreditation in the home, school, and in the community (e.g., suicide prevention, breast/testicular self-examination, CPR/AED, life skills training, menstrual products).
  - **2.1.12.CHSS.6**: Evaluate the validity of health information, resources, services, in school, home and in the community.
  - **2.1.12.CHSS.7**: Describe how individuals and local, state, and global advocacy organizations can collaborate to address common local and global health and social issues (e.g., hunger, clean water, organ/tissue donation).
- **2.2 Physical Wellness**
  - **2.2.12.MSC.4**: Analyze etiquette, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance, participation, and behavior.
  - **2.2.12.MSC.5**: Develop rule changes to existing games, sports, and activities that enhance participation, safety, and enjoyment.
  - **2.2.12.LF.8**: Identify personal and community resources to explore career options related to physical activity and health.

- **2.3 Safety**
    - **2.3.12.PS.1**: Apply a thoughtful decision-making process to evaluate situations and influences that could lead to healthy or unhealthy consequences
    - **2.3.12.PS.3**: Summarize New Jersey motor vehicle laws and regulations, Safe Stops, and determine their impact on health and safety (e.g., organ/tissue donation, traffic safety, avoid driving distractors, seatbelt use, the use of hand-held devices).
    - **2.3.12.PS.4**: Investigate the relationship between alcohol, drug use, and motor vehicle crashes and analyze the short- and long-term consequences of these actions.
    - **2.3.12.HCDM.1**: Develop a health care plan to help prevent and treat diseases and health conditions one may encounter (e.g., breast/testicular exams, Pap smear, regular STIs testing, HPV vaccine).
    - **2.3.12.HCDM.2**: Provide examples of how drugs and medication mimic or block the action of certain cells in the body, and how abusing drugs can affect the human body.
    - **2.3.12.HCDM.3**: Evaluate the benefits of biomedical approaches to prevent STIs (e.g., hepatitis B vaccine, HPV vaccine) and HIV (e.g., PrEP, PEP).
    - **2.3.12.HCDM.4**: Evaluate emerging methods to diagnose and treat diseases and health conditions that are common in young adults in the United States and in other countries (e.g., hepatitis, stroke, heart attacks, cancer,).
    - **2.3.12.HCDM.5**: Analyze local, state, and international public health efforts to prevent and control diseases and health conditions (e.g., vaccinations, immunizations, medical exams, gene editing, artificial organ systems, prosthesis).
    - 2.3.12.DSDT.1: Correlate duration of drug use and abuse to the incidence of drug-related deaths, injuries, illness, and academic performance.

2020 New Jersey Student Learning Standards – Science

- **HS- PS4: Waves and Their Applications in Technologies for Information Transfer**
    - **HS-PS4-2** Evaluate questions about the advantages of using a digital transmission and storage of information.
    - **HS-PS4-5** Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.
- **HS- ETS1: Engineering Design**
    - **HS-ETS1-1** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
    - **HS-ETS1-2** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
    - **HS-ETS1-3** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
    - **HS-ETS1-4** Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

2020 New Jersey Student Learning Standards – Computer Science and Design Thinking

- **8.1 Computer Science**
  - **8.1.12.IC.1:** Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
  - **8.1.12.IC.3:** Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
  - **8.1.12.DA.1:** Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
  - **8.1.12.DA.2:** Describe the trade-offs in how and where data is organized and stored.
  - **8.1.12.DA.5**: Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
  - **8.1.12.DA.6**: Create and refine computational models to better represent the relationships among different elements of data collected from a phenomenon or process.
- **8.2 Design Thinking**
  - **8.2.12.ED.1:** Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.
  - **8.2.12.ED.3:** Evaluate several models of the same type of product and make recommendations for a new design based on a cost benefit analysis.
  - **8.2.12.ED.4:** Design a product or system that addresses a global problem and document decisions made based on research, constraints, trade-offs, and aesthetic and ethical considerations and share this information with an appropriate audience.
  - **8.2.12.ED.5**: Evaluate the effectiveness of a product or system based on factors that are related to its requirements, specifications, and constraints (e.g., safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, ergonomics).
  - **8.2.12.ED.6**: Analyze the effects of changing resources when designing a specific product or system (e.g., materials, energy, tools, capital, labor).
  - **8.2.12.ITH.1:** Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
  - **8.2.12.ITH.2:** Propose an innovation to meet future demands supported by an analysis of the potential costs, benefits, trade-offs, and risks related to the use of the innovation.
  - **8.2.12.ITH.3:** Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.
  - **8.2.12.NT.1:** Explain how different groups can contribute to the overall design of a product.
  - **8.2.12.NT.2:** Redesign an existing product to improve form or function.
  - **8.2.12.ETW.1:** Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation, and maintenance of a chosen product.
  - **8.2.12.ETW.2:** Synthesize and analyze data collected to monitor the effects of a technological product or system on the environment.

- **8.2.12.EC.1**: Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.
- **8.2.12.EC.3**: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.

2020 New Jersey Student Learning Standards – Career Readiness, Life Literacies, and Key Skills

- **9.2 Career Awareness, Exploration, Preparation, and Training**
  - **9.2.12.CAP.1:** Analyze unemployment rates for workers with different levels of education and how the economic, social, and political conditions of a time period are affected by a recession.
  - **9.2.12.CAP.2:** Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
  - **9.2.12.CAP.3:** Investigate how continuing education contributes to one's career and personal growth.
  - **9.2.12.CAP.4:** Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
  - **9.2.12.CAP.5:** Assess and modify a personal plan to support current interests and postsecondary plans.
  - **9.2.12.CAP.6:** Identify transferable skills in career choices and design alternative career plans based on those skills.
  - **9.2.12.CAP.7:** Use online resources to examine licensing, certification, and credentialing requirements at the local, state, and national levels to maintain compliance with industry requirements in areas of career interest.
  - **9.2.12.CAP.8:** Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors.
  - **9.2.12.CAP.9:** Locate information on working papers, what is required to obtain them, and who must sign them.
  - **9.2.12.CAP.10:** Identify strategies for reducing overall costs of postsecondary education (e.g., tuition assistance, loans, grants, scholarships, and student loans).
- **9.4 Life Literacies and Key Skills**
  - **9.4.12.CI.1:** Demonstrate the ability to reflect, analyze, and use creative skills and ideas
  - **9.4.12.CI.2:** Identify career pathways that highlight personal talents, skills, and abilities
  - **9.4.12.CI.3:** Investigate new challenges and opportunities for personal growth, advancement, and transition
  - **9.4.12.CT.1:** Identify problem-solving strategies used in the development of an innovative product or practice
  - **9.4.12.CT.2:** Explain the potential benefits of collaborating to enhance critical thinking and problem solving

- **9.4.12.CT.3:** Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue
- **9.4.12.CT.4:** Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
- **9.4.12.IML.1:** Compare search browsers and recognize features that allow for filtering of information.
- **9.4.12.IML.2:** Evaluate digital sources for timeliness, accuracy, perspective, credibility of the source, and relevance of information, in media, data, or other resources
- **9.4.12.TL.3**: Analyze the effectiveness of the process and quality of collaborative environments.
- **9.4.12.TL.4:** Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem

Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Unit Essential Questions	Unit Enduring Understandings
● How do the decisions of sports medicine professionals impact their clients' wellness? ● What are the methodological steps in evaluating and assessing injury or illness? ● What are the proper treatment and rehabilitative protocols for common athletic injuries?	Students will understand… ● Sports medicine professionals equipped with a sound foundation in the anatomy and physiology of the lower extremity associated with athletics are able to advise clients and assist them when injured. ● The sports medicine professional should utilize the SOAP method in assessing athletic injuries and illnesses. ● There are standard protocols in the sports medicine field including therapeutic modalities, exercise prescription and first aid procedures that should be used to treat common athletic injuries of the lower extremity.

Evidence of Learning		
Formative Assessment:	**Summative Assessment:**	**Resources Needed:**
● Do Nows ● Classwork	● Quizzes ● Tests	● Google Classroom ●

● Homework ● Performance activities/	● Problem-Based Learning Projects	

UNIT 8: Preventing Athletic Related Injuries
In this unit, students address the role of the sports medicine professional in the prevention and rehabilitation of sports related injuries and conditions. Students explore injury prevention concepts and techniques. Students will then learn, practice and apply various taping and wrapping applications. Lastly, students will utilize, fit and analyze different kinds of protective equipment.
Students will... Understand why tape and wraps are applied to the body. Develop an understanding of the type of tape available. Explain how to apply tape to the body by following the principles of tape handling, skin preparation, and taping techniques. Understand why and how elastic wraps are applied to the body for specific injuries. Explain the basic principles of protection. Describe the general guidelines of protective equipment use. Explain what protective equipment is necessary for various sports. Describe proper equipment application.
Standards/Core Ideas/Performance Expectations
2020 New Jersey Student Learning Standards - Comprehensive Health and Physical Education ● **2.1 Personal and Mental Health** ○ **2.1.12.PGD.1**: Develop a health care plan that includes practices and strategies designed to support an active lifestyle, attend to mental health, and foster a healthy, social and emotional life. ○ **2.1.12.PGD.2**: Predict how healthy and unhealthy behaviors can affect brain development and impact physical, social and emotional stages of early adulthood. ○ **2.1.12.EH.3**: Describe strategies to appropriately respond to stressors in a variety of situations (e.g., academics, relationships, shootings, death, car accidents, illness).**2.1.12.EH.3**: Describe strategies to appropriately respond to stressors in a variety of situations (e.g., academics, relationships, shootings, death, car accidents, illness). ○ **2.1.12.EH.4**: Analyze and adapt mental and emotional health messages and communication techniques to peers and other specific target audience (e.g., dimensions of health). ○ **2.1.12.CHSS.5**: Analyze a variety of health products and services based on cost, availability, accessibility, benefits and accreditation in the home, school, and in the community ○ **2.1.12.CHSS.6**: Evaluate the validity of health information, resources, services, in school, home and in the community. ● **2.2 Physical Wellness**

- **2.2.12.MSC.2**: Analyze application of force and motion (e.g., weight transfer, power, speed, agility, range of motion) and modify movement to impact performance.
- **2.2.12.MSC.3**: Design, lead and critique rhythmic and physical activity that includes variations in time, space, force, flow, and relationships
- **2.2.12.MSC.4**: Analyze etiquette, responsibilities, and preparation of players, officials, trainers, and other participants and recommend strategies to improve their performance, participation, and behavior.
- **2.2.12.PF.2**: Respect and appreciate all levels of ability and encourage with care during all physical activities.
- **2.2.12.PF.5**: Analyze fitness knowledge in strength, conditioning, agility, and the physiological responses of the energy systems effects on the mind and body before, during, and after physical fitness activities.
- **2.2.12.LF.1**: Apply and share a movement and physical fitness vocabulary that is intrinsic to motivate oneself, to impact family, and others in a community.
- **2.2.12.LF.2**: Develop a sense of openness and willingness when participating in physical fitness activity to share and learn experiences from your own and other cultures.
- **2.2.12.LF.4**: Exhibit responsible social behavior by including and cooperating with classmates of all skill levels, assisting when needed, and collaborating respectfully to solve problems in groups, teams, and in pairs during physical activity.
- **2.2.12.LF.5**: Describe the social benefits gained from participating in physical activity
- **2.2.12.LF.6**: Implement a financial plan for participation in physical activity in the community for self and family members.
- **2.2.12.LF.7**: Analyze the current and future impact of globalization and technology on the influences of participation in sports, games, physical fitness activities, dance, gaming, outdoor adventure, viewing sports, and social and emotional connections.
- **2.2.12.LF.8**: Identify personal and community resources to explore career options related to physical activity and health.

- **2.3 Safety**
  - **2.3.12.PS.1**: Apply a thoughtful decision-making process to evaluate situations and influences that could lead to healthy or unhealthy consequences
  - **2.3.12.HCDM.1**: Develop a health care plan to help prevent and treat diseases and health conditions one may encounter
  - **2.3.12.HCDM.2**: Provide examples of how drugs and medication mimic or block the action of certain cells in the body, and how abusing drugs can affect the human body.
  - **2.3.12.HCDM.5**: Analyze local, state, and international public health efforts to prevent and control diseases and health conditions

2020 New Jersey Student Learning Standards – Science

- **HS-PS1: Matter and Its Interactions**
  - MS-PS1-3 Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.**'**
- **HS-PS2: Motion and Stability: Forces and Interactions**

    - **HS-PS2-1** Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.
    - **HS-PS2-6** Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.
- **HS-PS3: Energy**
    - **HS-PS3-1** Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.
    - **HS-PS3-2** Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects).
    - **HS-PS3-3** Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.
- **HS- ETS1: Engineering Design**
    - **HS-ETS1-1** Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
    - **HS-ETS1-2** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
    - **HS-ETS1-3** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
    - **HS-ETS1-4** Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

2020 New Jersey Student Learning Standards – Computer Science and Design Thinking

- **8.1 Computer Science**
    - **8.1.12.IC.1:** Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.
    - **8.1.12.IC.3:** Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
    - **8.1.12.DA.1:** Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
    - **8.1.12.DA.2:** Describe the trade-offs in how and where data is organized and stored.
    - **8.1.12.DA.5**: Create data visualizations from large data sets to summarize, communicate, and support different interpretations of real-world phenomena.
    - **8.1.12.DA.6**: Create and refine computational models to better represent the relationships among different elements of data collected from a phenomenon or process.
- **8.2 Design Thinking**
    - **8.2.12.ED.1:** Use research to design and create a product or system that addresses a problem and make modifications based on input from potential consumers.

- **8.2.12.ED.3:** Evaluate several models of the same type of product and make recommendations for a new design based on a cost benefit analysis.
- **8.2.12.ED.4:** Design a product or system that addresses a global problem and document decisions made based on research, constraints, trade-offs, and aesthetic and ethical considerations and share this information with an appropriate audience.
- **8.2.12.ED.5**: Evaluate the effectiveness of a product or system based on factors that are related to its requirements, specifications, and constraints (e.g., safety, reliability, economic considerations, quality control, environmental concerns, manufacturability, maintenance and repair, ergonomics).
- **8.2.12.ED.6**: Analyze the effects of changing resources when designing a specific product or system (e.g., materials, energy, tools, capital, labor).
- **8.2.12.ITH.1:** Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
- **8.2.12.ITH.2:** Propose an innovation to meet future demands supported by an analysis of the potential costs, benefits, trade-offs, and risks related to the use of the innovation.
- **8.2.12.ITH.3:** Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.
- **8.2.12.NT.1:** Explain how different groups can contribute to the overall design of a product.
- **8.2.12.NT.2:** Redesign an existing product to improve form or function.
- **8.2.12.ETW.1:** Evaluate ethical considerations regarding the sustainability of environmental resources that are used for the design, creation, and maintenance of a chosen product.
- **8.2.12.ETW.2:** Synthesize and analyze data collected to monitor the effects of a technological product or system on the environment.
- **8.2.12.EC.1**: Analyze controversial technological issues and determine the degree to which individuals, businesses, and governments have an ethical role in decisions that are made.
- **8.2.12.EC.3**: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.

2020 New Jersey Student Learning Standards – Career Readiness, Life Literacies, and Key Skills

- **9.2 Career Awareness, Exploration, Preparation, and Training**
  - **9.2.12.CAP.1:** Analyze unemployment rates for workers with different levels of education and how the economic, social, and political conditions of a time period are affected by a recession.
  - **9.2.12.CAP.2:** Develop college and career readiness skills by participating in opportunities such as structured learning experiences, apprenticeships, and dual enrollment programs.
  - **9.2.12.CAP.3:** Investigate how continuing education contributes to one's career and personal growth.

- **9.2.12.CAP.4:** Evaluate different careers and develop various plans (e.g., costs of public, private, training schools) and timetables for achieving them, including educational/training requirements, costs, loans, and debt repayment.
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CRP6. Demonstrate creativity and innovation.
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CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
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CRP12. Work productively in teams while using cultural global competence.

Unit Essential Questions	Unit Enduring Understandings
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Evidence of Learning

Formative Assessment:	Summative Assessment:	Resources Needed:
● Do Nows ● Classwork ● Homework ● Performance activities/	● Quizzes ● Tests ● Problem-Based Learning Projects	● Google Classroom ●

Section IX: Unit Reflection

The *Introduction to Athletic Training Instructional Team* must confer upon the completion of each instructional unit in the *Introduction to Athletic Training* course and rate the degrees to which the instructional units meet performance criteria established by the New Jersey Department of Education using the *Unit Reflection Form*. Completed *Unit Reflection Form*s must be submitted to the Department Supervisor for approval upon completion of curriculum implementation with a complementing list of suggested modifications to the *Introduction to Athletic Training Curriculum*.

Lesson Activities:	Strongly	Moderately	Weakly

Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills;			
Are challenging and require higher order thinking and problem solving skills;			
Allow for student choice;			
Provide scaffolding for acquiring targeted knowledge/skills;			
Integrate global perspectives;			
Integrate 21st century skills;			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills;			
Are varied to address different student learning styles and preferences;			
Are differentiated based on student needs;			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process;			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives;			
Provide opportunities for student reflection and self-assessment;			
Provide data to inform and adjust instruction to better meet the varying needs of learners;			