Foundations of Sports Medicine

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8/1/2014

2014-2015

Arkansas Department of Career Education
Model Framework

Course Title: **Sports Medicine**

Career Cluster: **Therapeutic Services**

Secondary – Arts, AV/Technology and Communications	
Course Number	**494160 Credit: 1**
CIP Number	
Grade Level	**9-12**
Course Type	Elective
Teacher Certification	**603**
CTSO	
Facility Requirements	
Industry Certifications	CPR/AED and First Aid certification

Program Purpose: The purpose of this instructional program is to serve as an introduction to the Field of Sports Medicine and further investigate the job responsibilities of the Athletic Trainer.

Course Description: This course is meant to introduce students to the realities of the Sports Medicine field and educate them about the role an Athletic Trainer plays in the field. Students will learn a variety of concepts in healthcare from sports Medicine's historical foundations to injury management. This course will provide students an opportunity for hands on learning, and teachers how to network with other Athletic Trainers as well as other healthcare professionals in the community.

Journal Requirements: Students will be responsible for maintaining a Sports Medicine journal, recording all necessary information indicated in the discussion of each topic covered in a day. This journal will be utilized daily and serve as a reference tool and ongoing record of applications and activities for the entirety of the course. It is a course requirement, appropriately weighted as to be a significant portion of the course grade.

2014-2015

Arkansas Department of Career Education
Student Performance Standards

Course Title: **Sports Medicine** **Course Number:** **494160** **Course Credit:** **1**

Course Description: At the completion of the course the student will be able to:

1.0 Investigate the Foundations of Sports Medicine

- 1.1 Recognize the historical foundations of athletic training
- 1.2 Delineate the process of attaining certification and licensure for the athletic trainer
- 1.3 Differentiate between the roles and responsibilities of various professionals on the Sports Medicine Team as well as settings they may work in

2.0 Investigate the roles of the Athletic Trainer in healthcare administration

- 2.1 Investigate budgetary concerns involved in developing or maintaining a healthcare facility
- 2.2 Design an athletic training healthcare facility with all required components
- 2.3 Explain the legal importance of good record keeping

3.0 Assess the legal and ethical concerns in sports medicine

- 3.1 Investigate the legal considerations for athletic trainer acting as a health care provider
- 3.2 Explain the legal concepts of liability, negligence, torts and assumptions of risks
- 3.3 Identify measures that can be taken to minimize chances of litigation

4.0 Investigate training and conditioning techniques

- 4.1 Examine the roles and responsibilities of the athletic trainer and strength & conditioning coach
- 4.2 Apply the principles of training and conditioning
- 4.3 Explain how periodization can reduce the risk of injury due to overtraining

5.0 Develop Sports Nutrition Plans

- 5.1 Assess the importance of nutrition and hydration to enhancing performance
- 5.2 Differentiate between body weight and body composition assessing factors that influence each
- 5.3 Critique the use of popular performance enhancing substances

6.0 Recognize Environmental Factors that may Lead to Injury

- 6.1 Recognize environmental factors that contribute to injuries
- 6.2 Manage environmental conditions to minimize the risk of injury

7.0 Assess bracing, bandaging and taping procedures

- 7.1 Evaluate the need for bracing equipment
- 7.2 Practice basic bandaging techniques
- 7.3 Practice proper taping techniques

8.0 Recognize Common Sports Injuries

- 8.1 List the mechanical properties of tissue as they pertain to the stress–strain–curve
- 8.2 Differentiate between chronic and acute injuries
- 8.3 Identify anatomical structures of bone
- 8.4 Investigate the mechanisms that cause joint injuries
- 8.5 Identify anatomical structures of skin, ligaments, and muscle

9.0 Assess the Transmission of Blood-borne Pathogens

- 9.1 Investigate the risks of blood-borne pathogens
- 9.2 Examine ways to reduce the risk of infection

10.0 Practice “on the field” emergency management

- 10.1 Assess the need for an emergency action plan
- 10.2 Describe the initial management of acute injuries
- 10.3 Apply cardiopulmonary resuscitation and first aid techniques

11.0 Investigate the Psychology of Injury

- 11.1 Differentiate social and professional roles in sports psychology
- 11.2 Assess the psychological reactions in the ill or injured
- 11.3 Categorize types of socially-used drugs including performance enhancing drugs
- 11.4 Differentiate between the types of eating disorders

12.0 Assess the Need for Therapeutic Interventions

- 12.1 Describe the stages of tissues healing from injury to maturation
- 12.2 Assess the physiology and psychology of pain
- 12.3 Develop a problem solving strategy
- 12.4 Differentiate between thermal, electrical and mechanical agents

Standard 1.0 Applying the Historical Foundations of Sports Medicine			
Performance Indicator 1.1 **Recognize the historical foundations of athletic training**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
1.1.1 Discuss how the profession's history has impacted the profession today as well as the implications are for the future	• Invite a Veteran Athletic Trainer to speak about his/her experiences and outlook in the field	SL11-12.1a R11-12.1	HL2
1.1.2 Compare and contrast state, local, and national levels of athletic organizations, summarizing their impact on the profession of Athletic Training	• Draw a diagram illustrating the relationship between various levels of organizations	SL11-12.1a R11-12.1	HL2
Performance Indicator 1.2 **Investigate the process of attaining certification and licensure for the athletic trainer**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
1.2.1 Discuss the role of the Board of Certification (BOC) and the impact it has made in the field of Athletic training	• Use the internet to locate the BOC website, vision, and mission statement • Determine the requirements to practice as an athletic trainer in each state.	SL11-12.1a R11-12.1	
1.2.2 Compare the difference between "certification" and "Licensure."	• Hypothesize the impact current legislation could have on the rights of athletic trainers to practice.	R11-12.9	
Performance Indicator 1.3 **Differentiate between the roles and responsibilities of various professionals on the Sports Medicine Team as well as the settings they may work in.**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
1.3.1 Differentiate the roles and responsibilities of the Coach, Athletic Trainer, Athletic Training Student aide, and the Team Physician.	• Create a Venn diagram illustrating the roles of various professionals on the Sports Medicine team.	R11-12.5	HL2
1.3.2 Compare and contrast the different settings of employment an athletic trainer may work in.	• Research job descriptions for an athletic trainer in the secondary school, clinic/hospital, occupational, university, and professional settings	R11-12.5	

Standard 2.0 Investigate the roles of the athletic trainer in healthcare administration			
Performance Indicator 2.1 **Investigate budgetary concerns involved in developing or maintaining a healthcare facility**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
2.1.1 Estimate the pitfalls that may arise due to budgetary concerns.	• Create a budget for an athletic training program based on specific instructor determined parameters	SL11-12.3 R11-12.8	
2.1.2 Predict possible concerns for an individual program depending on the setting.	• Research pictures of large and small school/university athletic training healthcare facilities; create a list of equipment that is necessary and a list of equipment that is considered a luxury	SL11-12.3 R11-12.8	
Performance Indicator 2.2 **Design an athletic training healthcare facility with all required components**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
2.2.1 Identify the necessary components for a fully functioning athletic training facility.	• Construct plans for a well-designed athletic training facility utilizing a predetermined budget	SL11-12.1 R11-12.8	
2.2.2 Identify appropriate policies and procedures that should be enforced in the athletic healthcare facility.	• Create a set of policies and procedures to accompany an athletic healthcare facility	SL11-12.1 R11-12.8	
Performance Indicator 2.3 **Explain the legal importance of good record keeping**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
2.3.1 Determine the types of documents that should be kept.	• Generate specific documents that would be used daily for medical documentation	SL11-12.1c	
2.3.2 Explain the importance of pre-participation exams.	• Construct a mock “station physicals”	SL11-12.1a	
2.3.3 Compare and contrast current options for record keeping and injury tracking.	• Research and report on various types of injury tracking systems	R11-12.9	
2.3.4 Differentiate between HIPPA and FERPA.	• Give real life examples of HIPPA and FERPA	SL11-12.1a R11-12.1	

Standard 3.0 Understanding legal and ethical concerns in sports medicine			
Performance Indicator 3.1 **Investigate the legal considerations for athletic trainer acting as a health care provider**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
3.1.1 Identify the legal limitations of coaches, athletic trainers, and athletic training student aides.	• Compare and contrast the roles of coaches, ATs, and athletic training student aides.	R11-12.1 R11-12.2	
3.1.2 Hypothesize ways to avoid litigation.	• Design an informational handout for new athletic trainers to use as a reference in avoiding litigation	SL11-12.1a W11-12.2a	
Performance Indicator 3.2 **Explain the legal concepts of liability, negligence, torts, and assumptions of risks**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
3.2.1 Differentiate between tort and negligence.	• Create a real world scenario that demonstrates each	SL11-12.4 R11-12.2	
3.2.2 Determine the relationship between assumption of risk and liability.	• Research lawsuits that use both of these concepts in the arguments	SL11-12.4 R11-12.2	
Performance Indicator 3.3 **Identify measures that can be taken to minimize chances of litigation**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
3.3.1 Categorize the measures required to minimize chances of litigation.	• Construct a scenario in which something goes wrong in an athlete's care; create 2 outcomes, one in which the AT utilized the necessary measures and one in which the AT was unprepared	SL11-12.4 R11-12.5	
3.3.2 Describe product liability.	• Compare the product liability statements for different types of equipment and determine what they have in common	SL11-12.1c R11-12.1 R11-12.2	
3.3.3 Differentiate between legal and ethical responsibility.	• Locate examples of each via news, movie clips, TV, books, stories, etc.	R11-12.7	

Standard 4.0 Understanding Training and conditioning techniques			
Performance Indicator 4.1 **Examine the roles of the athletic trainer and the strength and conditioning coach on an athlete's fitness**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
4.1.1 Differentiate between two roles and their impact on the athlete	• Create a job description for both the Strength and Conditioning Coach, and the AT;	R11-12.2 W11-12.2a	
4.1.2 Categorize the job duties of each as being either Medical or Fitness	• Compare and contrast the differences in the job responsibilities of each	SL11-12.5	
Performance Indicator 4.2 **Identify the principles of training and conditioning**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
4.2.1 Express the importance of the warm-up and cool down periods	• Create an appropriate warm up and cool down for a particular sport.	SL11-12.2 R11-12.2	
4.2.2 Find the correlation between flexibility, strength, power, core stability, aerobic endurance and how it relates to athletic performance and injury prevention	• Analyze the type of athlete that results from a deficit in one or more of the above components	L11-12.6	
4.2.3 Compare and contrast techniques for improving flexibility, strength, power, core stability, and aerobic endurance	• Design a program to improve flexibility, strength, power, core stability, and aerobic endurance		
Performance Indicator 4.3 **Explain the role that overtraining plays in the risk of injury and how Periodization can help.**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
4.3.1 Assess the consequences and detrimental effects overtraining can have on a given group of athletes	• Design an intervention plan for a group of over-trained athletes	SL11-12.1b SL11-12.1c	
4.3.2 Determine the negative effects of overtraining	• Create an educational brochure to help coaches recognize the signs.	SL11-12.4	
4.3.3 Identify the various training periods in each phase	• Apply the concept of periodization to create and implement a training regimen for a sports team	R11-12.2	

Standard 5.0 Developing Sports Nutrition Plans			
Performance Indicator 5.1 **Explain the importance of good nutrition and hydration in enhancing performance and injury prevention**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
5.1.1 Distinguish the six classes of nutrients	• Create a visual aid to organize the major functions of each nutrient	R11-12.1	
5.1.2 Assess the pros and cons of supplementing nutrients in the athlete's diet	• Calculate individual sweat loss and create fluid replacement plan	R11-12.8	
5.1.3 Discuss parameters for consuming a pre-event meal	• Design a pre-event meal for athletes in a specific sport	SL11-12.1	
Performance Indicator 5.2 **Differentiate between body weight and body composition along with the factors that influence both of them**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
5.2.1 Discuss the idea of caloric balance and how to assess it	• Assess body composition using skin calipers	SL11-12.1a	
5.2.2 Compare and contrast the various weight manipulation methods	• Identify various methods for weight loss as well as gaining weight • Design a personalized plan to achieve a specific weight outcome		
Performance Indicator 5.3 **Identify popular performance enhancing substances**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
5.3.1 Use the internet to locate substances that are banned by various organizations	• Create an informative product for publication	R11-12.1 W11-12.2	
5.3.2 Determine the benefits and risks of using performance enhancing drugs	• Compare and contrast different types of PEDs • Research various cases of PED usage in athletes and create a report containing different outcomes	R11-12.1	
Standard 6.0 Recognizing Environmental Factors that Can Lead to Injury			
Performance Indicator 6.1 **Recognize environmental factors that contribute to environmental injury**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**

6.1.1 Identify unstable atmospheric conditions	• Develop a lightening policy for each outdoor venue •	R11-12.2 W11-12.2a	
6.1.2 Determine the effects of Altitude and Air quality on Performance	• Compare and contrast the symptoms of each.	R11-12.2	
6.1.3 Determine proper prevention of environmental illness	• Create a poster board detailing prevention strategies	R11-12.1 R11-12.2	
Performance Indicator 6.2 Identify and Manage Conditions related to environmental factors	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
6.2.1 Recognize the difference between heat related injuries	• Determine appropriate treatment for specific heat illnesses	R11-12.1	
6.2.2 Describe cold injuries and their causes	• Provide a detailed account of the physiology of cold injury and how it can be prevented	R11-12.1	
Standard 7.0 Appropriate usage of Protective gear, taping, and bracing			
Performance Indicator 7.1 Determine factors involved in fitting various types of equipment	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
7.1.1 Examine various types of equipment and project possible problems for fitting	• List types of marketed and fabricated bracing devices	R11-12.2 R11-12.7	
7.1.2 Determine the level of effectiveness for marketed versus fabricated bracing devices	• Invent a bracing device for a given injury	R11-12.1	
Performance Indicator 7.2 Explain basic bandaging techniques	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
7.2.1 Determine the most appropriate application of each type of bandage for various types of injuries	• Demonstrate a bandage application for a given injury	R11-12.2	
7.2.2 Formulate possible uses for the application of a cloth ankle wrap	• Demonstrate one of those uses and give your reasoning behind your practice	SL11-12.4	
Performance Indicator 7.3 Explain basic taping procedures	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**

7.3.1 Demonstrate arch, elbow, ankle, hand, wrist, and thumb tape jobs using appropriate basic taping procedures	• Create a rubric for critiquing peers	SL11-12.1a	
7.3.2 Compare and contrast effectiveness of taping versus bracing	• Locate current research on this topic and create an argument for or against one or the other	SL11-12.4	
Standard 8.0 Recognizing Common sports injury			
Performance Indicator 8.1 **List the mechanical properties of tissue as they pertain to the stress-strain-curve**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
8.1.1 Use the stress-strain-curve to explain the role of external stress on a specific injury	• Investigate the effects each load has on a given material	SL11-12.1a	
8.1.2 Demonstrate each type of tissue loading	• Choose one of the 5 types of loading and design a scenario demonstrating how a specific load can cause an injury	SL11-12.1c	
Performance Indicator 8.2 **Recognize the difference between chronic versus acute injury**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
8.2.1 Compare and contrast acute versus chronic injuries	• Design a treatment protocol for both a chronic and an acute injury	SL11-12.1a	
8.2.2 Determine what type of injury an athlete has based on signs and symptoms	• Create a Brochure to educate Coaches and Athletes on basic Acute and Chronic injuries and the treatments for each.	W11-12.2a	
Performance Indicator 8.3 **Identify anatomical structures of bone**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
8.3.1 Identify different types of bones	• Construct a long bone from the materials of your choice	R11-12.7	
8.3.2 Classify different types of fractures based on the Mechanism of Injury	• Demonstrate proper acute care for a given fracture	SL11-12.1a	
Performance Indicator 8.4 **Recognize types of joint injuries and their Mechanism of Injury**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
8.4.1 Recognize different types of articulations	• Illustrate how bones come together to form different types of joints	R11-12.2	

Performance Indicator 8.5 **Identify anatomical structures of skin, ligaments, and muscle**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
8.5.1 Recognize the differences and the purposes in each structure	• Construct a model illustrating the relationships between the structures	R11-12.1	
8.5.2 Compare the different types of soft tissue injuries	• Create informative documents about common soft tissue injuries, including basic treatments for each	W11-12.2a	
8.5.3 Differentiate between the types of skin lesions and their treatments	• Demonstrate appropriate wound care procedures	SL11-12.1a R11-12.1	
Standard 9.0 Prevention and Recognition of Bloodborne pathogen Transmission			
Performance Indicator 9.1 **Identify the various bloodborne pathogens and their risks**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
9.1.1 Differentiate between various bloodborne pathogens	• Design an informational document publication describing the risks and mode of transportation of each	R11-12.2 W11-12.1a W11-12.1b	
9.1.2 Compare and contrast the difference between viral, bacterial, and fungal	• Use credible sources to locate the prevalence of various infections in your community	R11-12.1	
Performance Indicator 9.2 **Examine ways to reduce the risk of infection**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
9.2.1 Discuss the term “Universal Precautions”	• Demonstrate proper glove removal and hand washing techniques	SL11-12.1a	
9.2.2 Determine OSHA’s role in the workplace and how it can effect both employees and employers	• Outline the components of a written exposure plan and include who should be involved.	R11-12.2 W11-12.3	
9.2.3 Identify OSHA’s bloodborne pathogen standards	• Design a mass infectious outbreak and determine its mode of transmission via a type of contact, i.e. airborne and/or physical; experiment with how quickly it might spread	SL11-12.1 SL11-12.2	
9.2.4 Infer ramifications for non-compliance	• Hypothesize how compliance of the standards could have prevented or minimized the out-break mentioned above	SL11-12.4	
Standard 10.0 Providing on the Field Emergency Management			

Performance Indicator 10.1 **Describe the components of an emergency action plan**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
10.1.1 Compare and contrast EAPs for different venues and settings	• Using the Arkansas Activities Association's format, develop an emergency action plan for a campus facility	SL11-12.4	
10.1.2 Determine specific personnel in your school who might be responsible for a specific duty in your EAP		SL11-12.1b	
Performance Indicator 10.2 **Describe the initial management of acute injuries**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
10.2.1 Analyze the purposes for both the primary and secondary assessment procedures	• Perform a primary assessment and secondary assessment	SL11-12.1	
10.2.2 Describe the purpose of Triage.	• Demonstrate the appropriate actions to be taken in an “on field” emergency scenario	SL11-12.1	
10.2.3 Recognize the signs and symptoms of a spine injury	• Determine the need for and correctly demonstrate proper spine injury management.	SL11-12.1a	
10.2.4 Perform the proper techniques for moving and transporting the injured athlete	• Demonstrate methods of conveyance used to transport an injured athlete	SL11-12.1c	
Performance Indicator 10.3 **Explain the purpose of cardiopulmonary resuscitation and first aid**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
10.3.1 Identify the steps of CPR and first aid.	• Perform the steps of CPR for various scenarios • Attain CPR and First Aid Certification	R11-12.3	
10.3.2 Recognize situations in which first aid is necessary.	• Attain First Aid Certification.	R11-12.2	
Standard 11.0 Understanding the Psychology of Injury			
Performance Indicator 11.1 **Differentiate social and professional roles in sports psychology**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
11.1.1 Determine situations that might require referral	• Generate a list of professionals you could use for referrals in your community	R11-12.2	

11.1.2 Detail the differences between a counselor, psychologist, and a psychiatrist	• Create a scenario that would include each of them separately or collectively	R11-12..1	
Performance Indicator 11.2 **Identify the psychological reactions one may see in the ill or injured**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
11.2.1 Determine the level of an athlete's psychological response to injury	• Apply the cognitive appraisal model to an injury scenario	R11-12.2	
11.2.2 Speculate how some athletes may try to cope and discuss the ramifications if any.		SL11-12.1a SL11-12.4	
Performance Indicator 11.3 **Categorize types of socially used drugs, including performance enhancing drugs**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
11.3.1 Describe the role an athletic trainer plays in intervention	• Locate a news story about an athlete who suffered from drug use; investigate their motive for the use and explain how an AT's intervention could have changed the outcome of the story	SL11-12.2 R11-12.7	
11.3.2 Determine appropriate outlets of referral.	• Design a list of community resources an AT may use to refer an athlete for help	R11-12.9	
Performance Indicator 11.4 **Differentiate between different types of eating disorders**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
11.4.1 Recognize the signs and symptoms of different eating disorders	• View a given documentary detailing real life cases of each type of eating disorder; make observations of sociological and behavioral details for each case and draw conclusions on the similarities and difference between the individuals observed	SL11-12.1 SL11-12.5	
11.4.2 Classify the types of people who might suffer from eating disorders	• Research stories in the media to support your classifications and chart those as they pertain to athletes	SL11-12.5 R11-12.7	
11.4.3 Compare and contrast the differences in the types of athletes with certain eating disorders		SL11-12.1	
Standard 12.0 Understanding Therapeutic intervention			

Performance Indicator 12.1 **Describe the stages of tissue healing from injury to maturation**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
12.1.1 Identify the factors that may impede the healing process	• Design a model to represent the stages of healing	R11-12.2	
12.1.2 Speculate how an athlete's nutrition may help or harm the process	• Create a nutritional plan for someone who has just had surgery.	SL11-12.1a R11-12.2	
Performance Indicator 12.2 **Recognize the physiology and psychology of pain**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
12.2.1 Compare various methods of rating pain	• Demonstrate pain assessments using a mock patient	SL11-12.1c	
12.2.2 Investigate various pain control theories	• Survey students on types of pain control techniques they may have used; make observations on which worked best	SL11-12.1c	
12.2.3 Differentiate between methods and mediums used for pain control including the role of various medications	• Research most common uses for various pain control	R11-12.2	
12.2.4 Recognize the differences between indications and contra indications of Analgesics and Nonsteroidal anti-inflammatory drugs	• Create a graphic organizer of analgesic and NSAID medications along with their indications, contraindications, and dosages; note both the generic and trade names for each	R11-12.2	
Performance Indicator 12.3 **Describe the problem solving approach**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**
12.3.1 Explain the principles of rehab	• Demonstrate understanding of the principles of rehab by arranging specific exercises on a continuum from simple to complex	R11-12.2	
12.3.2 Recognize the importance of goal setting in rehabilitation	• Create short term and long term goals for a specific injury	SL11-12.1a	
12.3.3 Discuss importance of following a physician's protocols	• Investigate 3 different rehabilitation protocols; using the evidence you uncover, chose the best one for a given scenario		
Performance Indicator 12.4 **Differentiate between thermal, electrical, and mechanical agents**	**Recommended Application/Activity**	**CCSS Standards**	**CCTC Standards**

12.4.1 Discuss appropriate applications of thermal modalities	• Research indications and contra-indications of using certain thermal modalities with specific injuries	R11-12.2	
12.4.2 Identify mechanical modalities and their purpose	• The Instructor or Guest speaker may demonstrate mechanical modalities to students	SL11-12.1a	

Career Ready Practices (CRP)

Documenting students as “career ready” is difficult but career-ready individuals are employable because of the value added to the employer.

1. Act as a responsible citizen in the workplace and the community. **(CRP1)**
Career-ready individuals understand the obligations and responsibilities of being a member of a community, and demonstrate this understanding every day through their interactions with others. They are aware of the impacts of their decisions on others and the environment around them and think about the short-term and long-term consequences of their actions. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

2. Apply appropriate technical skills and academic knowledge. **(CRP2)**
Career-ready individuals readily access and use the knowledge and skills acquired through experience and education. They make connections between abstract concepts with real-world applications and recognize the value of academic preparation for solving problems, communicating with others, calculating measures, and other work related practices.

3. Practice personal health and understand financial literacy. **(CRP3)**
Career-ready individuals understand the relationship between personal health and workplace performance. They contribute to their personal well-being through a healthy diet, regular exercise, and mental health activities. Career-ready individuals also understand that financial literacy leads to a secure future that enables career success.

4. Communicate clearly, effectively, and with reason. **(CRP4)**
Career-ready individuals communicate thoughts, ideas, and action plans with clarity, using written, verbal, electronic, and/or visual methods. They are skilled at interacting with others; are active listeners and speak clearly and with purpose, and are comfortable with the terminology common to the workplace environment. Career-ready individuals consider the audience for their communication and prepare accordingly to ensure the desired outcome.

5. Understand the environmental, social, and economic impacts of decisions made. **(CRP5)**
Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact on other people, organizations, the workplace, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials and adhere to regulations affecting the nature of their work. They are cognizant of the impact on the social condition, the environment, workplace, and profitability of the organization.

6. Demonstrate creativity and innovation. **(CRP6)**
Career-ready individuals recommend ideas that solve problems in new and different ways that contribute to the improvement of the organization. They consider unconventional ideas and suggestions by others as solutions to issues, tasks, or problems. They discern

which ideas and suggestions may have the greatest value. They seek out new methods, practices, and ideas from a variety of sources and apply\those ideas to their own workplace practices.

7. Employ valid and reliable research strategies. **(CRP7)**
Career-ready individuals employ research practices to plan and carryout investigations, create solutions, and keep abreast of the most current findings related to the workplace environment and practices. They use a reliable research process to search for new information and. Confirm the validity of sources when considering the use and adoption of external information or practices.

8. Utilize critical thinking to make sense of problems and persevere in solving them. **(CRP8)**
Career-ready individuals recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider options to solve the problem and once agreed upon, follow through to ensure the problem is resolved.

9. Model integrity, ethical leadership, and effective management. **(CRP9)**
Career-ready individuals consistently act in ways that align to personal and community held ideals and principles. They employ ethical behaviors and actions that positively influence others. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the direction and actions of a team or organization, and recognize the short—term and long—term effects that management's actions and attitudes can have on productivity, morale and organizational culture.

10. Develop an education and career plan aligned to personal goals. **(CRP10)**
Career-ready individuals take personal ownership of their own educational and career goals and manage their individual plan to attain these goals. They recognize the value of each step in the educational and experiential process, and that nearly all career paths require ongoing education and experience to adapt to practices, procedures, and expectations of an ever changing work environment. They seek counselors, mentors, and other experts to assist in the planning and execution of education and career plans.

11. Apply technology to enhance productivity. **(CRP11)**
Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring and using new technology. They understand the inherent risks--personal and organizational–of technology applications, and they take actions to prevent or mitigate these risks.

12. Work productively in teams while integrating cultural/global competence. **(CRP12)**
Career-ready individuals positively contribute to every team as both a team leader and team member. They apply an awareness of cultural differences to avoid barriers to productive and positive interaction. They interact effectively and sensitively with all members of the team and find ways to increase the engagement and contribution of other members.

Common Core State Standards Grades 9-12

ELA Speaking and Listening Standards Grades 9-10

1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **SL9-10.1**
    a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas. **SL9-10.1a**
    d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented. **SL9-10.1d**
2. Integrate multiple sources of information presented in diverse media or format(e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source. **SL9-10.2**
4. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. **SL9-10.4**
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. **SL9-10.5**

ELA Language Grades 9-10

1. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies. **L9-10.4**
    a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. **L9-10.4a**
    b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical; advocate, advocacy). **L9-10.4b**
    c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. **L9-10.4c**
    d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary). **L9-10.4d**

2. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. **L9-10.6**

Reading Standards for Literacy in Science and Technical Subjects Grades 9-10

1. Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. **R9-10.1**
2. Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text. **R9-10.2**
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics. **R9-10.4**
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address. **R9-10.6**
9. Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts. **R9-10.9**

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects Grades 9-10

3. Write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results. **W9-10.3**
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. **W9-10.5**
9. Draw evidence from informational texts to support analysis, reflection, and research. **W9-10.9**