

# Sports Medicine I

**7660 36 weeks / 280 hours**

**8316 36 weeks / 140 hours**

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## Course Description

**Suggested Grade Level:** 11 or 12

In this course, students earn a certification in First Aid/CPR/AED. The course introduces students to topics such as human anatomy and physiology, nutrition, biomechanics, medical terminology, injuries and illnesses, and legal and ethical issues in sports medicine. Students also examine prospective careers in the sports medicine field. Upon successful completion of this course, students are eligible to take Sports Medicine II and pursue certification as a personal trainer.

*Recommended prerequisite(s): Introduction to Health and Medical Sciences 8302*

## Task Essentials Table

- Tasks/competencies designated by plus icons (+) in the left-hand column(s) are essential
- Tasks/competencies designated by empty-circle icons (○) are optional
- Tasks/competencies designated by minus icons (-) are omitted
- Tasks marked with an asterisk (\*) are sensitive.

766 0	8316	Tasks/Competencies
Obtaining First Aid and CPR/AED Education		
+	+	Explain blood-borne pathogens and the importance of universal precautions.
+	+	Comply with the clinical site-specific exposure control plan.
+	+	Explain the role of OSHA in the sports medicine profession.
+	+	Complete a nationally recognized certification for first aid.
+	+	Complete a sports first aid module not included in a typical first aid course.
+	+	Identify the components of a primary and secondary survey.
+	+	Complete a nationally recognized certification in CPR/AED (cardiopulmonary resuscitation/automatic external defibrillator).
Understanding Human Anatomy and Physiology		
+	+	Explain the integumentary system.
+	+	Explain the musculoskeletal system.
+	+	Explain the cardiovascular and circulatory systems.
+	+	Explain the respiratory system.
+	+	Explain the nervous system.
○	○	Explain the urinary system.
○	○	Explain the female reproductive system.
○	○	Explain the male reproductive system.
+	+	Explain the lymphatic and immune systems as they relate to inflammatory response after injury.
○	+	Explain the digestive system.
+	○	Explain the endocrine system.
○	+	Explain the sensory system.
Understanding Nutrition		

766 0	8316	Tasks/Competencies
+	+	Explain basics of nutrition.
+	+	Explain factors that impact nutrition.
+	+	Explain how nutritional needs are impacted by physical activity.
+	+	Explain the relationship between nutrition and injury, illness, and health conditions.
+	+	Perform a nutritional analysis.
+	+	Interpret a nutritional analysis.
Understanding Biomechanics		
+	+	Identify lever systems associated with the human body.
+	+	Describe the principles associated with the planes and axes of human movement.
+	+	Identify how force, mass, and gravity relate to human body mechanics.
Understanding Medical Terminology		
+	+	Explain medical terminology commonly used in sports medicine.
+	+	Use appropriate medical terminology.
+	+	Explain commonly used prefixes and suffixes in medical terminology.
Understanding Injuries and Illnesses		
+	+	Explain that a sprain is an injury to a ligament.
+	+	Explain that a strain is an injury to a muscle or tendon.
+	+	Explain that a fracture is an injury to a bone.
+	+	Demonstrate knowledge of basic taping and wrapping techniques for musculoskeletal injuries.
+	+	Identify catastrophic injuries.
+	+	Identify neurological and brain injuries and conditions.
+	+	Identify infectious and contagious diseases related to physical activity.
+	+	Identify other health conditions that affect participation in physical activity.
+	+	Explain common psychological responses to injury.
Understanding Legal and Ethical Issues in Sports Medicine		
+	+	Distinguish among misfeasance, malfeasance, nonfeasance, and acts of commission/omission.
+	+	Explain the legal and ethical significance of documentation and record-keeping in sports medicine.
+	+	Explain the purpose and importance of medical documentation.
+	+	Document the history of an injury.
+	+	Explain the legal and ethical significance of confidentiality in sports medicine.
+	+	Identify the legal practice limitations of student aides vs. paraprofessionals vs. professionals in sports medicine.
+	+	Identify the necessity of client/patient referral to other healthcare professionals and practitioners.
+	+	Explain the implications that Americans with Disabilities Act (ADA) and cultural competence have within the field of sports medicine.
○	○	Demonstrate ethical behavior within the sports medicine profession.
Exploring Sports Medicine Careers		

766 0	8316	Tasks/Competencies
+	+	Explain the continuing education requirements in various sports medicine professions.
+	+	Identify organizations relevant to sports medicine professions.
+	+	Identify credentials recognized in the sports medicine profession.

Legend: + Essential ○ Non-essential - Omitted

## Curriculum Framework

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### Obtaining First Aid and CPR/AED Education

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#### Task Number 39

#### Explain blood-borne pathogens and the importance of universal precautions.

##### Definition

Explanation should

- incorporate a definition of *exposure*
- identify and describe specific blood-borne pathogens
- reflect an understanding that universal precautions include the use of protective barrier devices (e.g., latex/vinyl gloves, face shields) when blood or other body fluids are present.

See [Bloodborne Pathogens](#) on Occupational Safety and Health Administration (OSHA) website.

See [Bloodborne Pathogens](#) on Centers for Disease Control and Prevention (CDC) website.

##### Process/Skill Questions

- What constitutes an exposure to blood-borne pathogens?
- What materials must be available when dealing with blood or other body fluids?

- What steps should be taken in the event of exposure to a blood-borne pathogen? What are the long-term consequences of contracting human immunodeficiency virus (HIV), hepatitis B virus (HBV), or other diseases caused by blood-borne pathogens?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
  - Medical Terminology
- 

## **Task Number 40**

### **Comply with the clinical site-specific exposure control plan.**

#### **Definition**

Compliance should include a description of the specific details of the clinical site exposure control plan (e.g., use of personal protective/barrier devices, biohazard clean up and waste disposal, exposure incident reporting procedures).

#### **Process/Skill Questions**

- What are the basic components of a clinical site-specific exposure control plan?
  - What are the consequences of noncompliance with the plan?
- 

## **Task Number 41**

### **Explain the role of OSHA in the sports medicine profession.**

#### **Definition**

Explanation should include a review of universal precautions and awareness of employers' responsibilities to provide prevention strategies and follow-up procedures related to transmission of blood-borne pathogens.

See [Occupational Safety and Health Administration](#).

## Process/Skill Questions

- What are universal precautions?
- What is infectious waste?
- What is contaminated waste?
- What are disposal procedures for infectious and contaminated waste?
- What are prevention strategies related to prevention of transmission of blood-borne pathogens?

## HOSA Competitive Events (High School)

### Health Professions Events

- Sports Medicine

### Teamwork Events

- Biomedical Debate

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## Task Number 42

### Complete a nationally recognized certification for first aid.

#### Definition

Completion should include the fulfillment of course requirements, including hands-on portion of a nationally recognized first aid certifying organization, such as the American Heart Association, the American Red Cross, etc.

See [American Heart Association](#).

See [American Red Cross](#).

#### Process/Skill Questions

- When is it appropriate to perform CPR? Use an AED?
- What are the essential components of performing CPR? Using an AED?
- How does the level of medical training affect the responsibility to react in a medical emergency situation?
- How does the Good Samaritan Law affect a responder?

## HOSA Competitive Events (High School)

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine

### **Emergency Preparedness Events**

- CPR/First Aid
- 

## **Task Number 43**

### **Complete a sports first aid module not included in a typical first aid course.**

#### **Definition**

Module should include athletic-related concerns such as protective equipment considerations and venue-specific emergency planning.

#### **Process/Skill Questions**

- How would the presence of protective equipment affect the first aid provider's performance of the primary survey? Of the secondary survey?
- What factors must be considered when developing an emergency plan for various athletic facilities?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- Creative Problem Solving
- 

## **Task Number 44**

### **Identify the components of a primary and secondary survey.**

#### **Definition**

Identification for the primary survey should include establishment of an airway and assessment of breathing, level of consciousness, and circulation. A secondary survey consists of identification of non-life-threatening injuries.

#### **Process/Skill Questions**

- What are the components of a primary survey?
- At what point does the healthcare assessor move from a primary to a secondary survey?

#### **HOSA Competitive Events (High School)**

##### **Health Science Events**

- Medical Terminology

##### **Health Professions Events**

- Sports Medicine
- 

## **Task Number 45**

### **Complete a nationally recognized certification in CPR/AED (cardiopulmonary resuscitation/automatic external defibrillator).**

#### **Definition**

Completion includes fulfillment of the course requirements of a nationally recognized emergency cardiac care certifying organization, such as the American Heart Association or the American Red Cross.

Emergency cardiac care includes

- adult, pediatric, and infant CPR
- AED
- second rescuer CPR
- airway obstruction
- barrier devices, including BVM.

See [American Heart Association](#).

See [American Red Cross](#).

(Note: The NASM requires candidates to have a current CPR certification for their certification exam.)

### **Process/Skill Questions**

- When is it appropriate to perform CPR? Use an AED?
- What are the essential components of performing CPR? Using an AED?
- How does level of medical training affect the responsibility to react in a medical emergency situation?
- How does the Good Samaritan Law affect a responder?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

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# **Understanding Human Anatomy and Physiology**

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## **Task Number 46**

## **Explain the integumentary system.**

### **Definition**

Explanation should include naming and discussing the function of each part of the integumentary system.

### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine

### **Teamwork Events**

- HOSA Bowl

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## **Task Number 47**

## **Explain the musculoskeletal system.**

### **Definition**

Explanation should include naming and discussing the function of each part of the musculoskeletal system.

### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine

### **Teamwork Events**

- HOSA Bowl

## **NASM-Certified Personal Trainer**

### **Chapter 2 Basic Exercise Science**

- Define the components of the human movement system (kinetic chain).
- Explain the basic structure and function of
  - the nervous system
  - the skeletal system
  - the muscular system
  - the endocrine system.
- Describe how these systems respond and adapt to exercise.

## **Task Number 48**

### **Explain the cardiovascular and circulatory systems.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the cardiovascular and circulatory systems.

Students must also be able to explain and demonstrate taking vital signs (i.e., blood pressure, heart rate/pulse).

### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- HOSA Bowl

### **NASM-Certified Personal Trainer**

#### **Chapter 3 The Cardiorespiratory System**

- Describe the structure and function of the cardiovascular and respiratory systems.
- Explain how each of these systems relates to human movement.
- Describe how the cardiovascular and respiratory systems work in unison.
- Explain the influence that dysfunctional breathing can have on the human movement system.

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## **Task Number 49**

### **Explain the respiratory system.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the respiratory system.

Students must also be able to explain and demonstrate taking vital signs (i.e., breathing frequency).

### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- HOSA Bowl

### **NASM-Certified Personal Trainer**

#### **Chapter 3 The Cardiorespiratory System**

- Describe the structure and function of the cardiovascular and respiratory systems.
- Explain how each of these systems relates to human movement.
- Describe how the cardiovascular and respiratory systems work in unison.
- Explain the influence that dysfunctional breathing can have on the human movement system.

#### **Chapter 4 Exercise Metabolism and Bioenergetics**

- Describe the primary methods of how the body produces energy for exercise.
- Differentiate between aerobic and anaerobic metabolism.

- Distinguish which energy pathways predominate for various intensities and durations of exercise.
  - Understand the interaction of carbohydrate, fat, and protein as fuels for exercise.
  - State the differences in the energy use during steady state and exhaustive exercise.
  - Discriminate between the energy requirements of steady state versus intermittent exercise.
  - Describe basic training-induced adaptations in energy production.
- 

## **Task Number 50**

### **Explain the nervous system.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the nervous system.

#### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- HOSA Bowl

# NASM-Certified Personal Trainer

## Chapter 2 Basic Exercise Science

- Define the components of the human movement system (kinetic chain).
  - Explain the basic structure and function of
    - the nervous system
    - the skeletal system
    - the muscular system
    - the endocrine system.
  - Describe how these systems respond and adapt to exercise.
- 

## Task Number 51

### Explain the urinary system.

#### Definition

Explanation should include naming and discussing the function of each part of the urinary system.

#### Process/Skill Questions

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

### HOSA Competitive Events (High School)

#### Health Science Events

- Medical Spelling
- Medical Terminology

#### Health Professions Events

- Sports Medicine

#### Teamwork Events

- HOSA Bowl
- 

## **Task Number 52**

### **Explain the female reproductive system.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the female reproductive system.

#### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
  - Medical Terminology
- 

## **Task Number 53**

### **Explain the male reproductive system.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the male reproductive system.

#### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?

- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine

### **Teamwork Events**

- HOSA Bowl

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## **Task Number 54**

### **Explain the lymphatic and immune systems as they relate to inflammatory response after injury.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the lymphatic and immune systems.

#### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- HOSA Bowl
- 

## **Task Number 55**

### **Explain the digestive system.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the digestive system.

#### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- HOSA Bowl

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## **Task Number 56**

### **Explain the endocrine system.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the endocrine system.

#### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

#### **HOSA Competitive Events (High School)**

##### **Health Science Events**

- Medical Spelling
- Medical Terminology

##### **Health Professions Events**

- Sports Medicine

##### **Teamwork Events**

- HOSA Bowl

#### **NASM-Certified Personal Trainer**

##### **Chapter 2 Basic Exercise Science**

- Define the components of the human movement system (kinetic chain).
- Explain the basic structure and function of
  - the nervous system
  - the skeletal system
  - the muscular system
  - the endocrine system.

- Describe how these systems respond and adapt to exercise.
- 

## **Task Number 57**

### **Explain the sensory system.**

#### **Definition**

Explanation should include naming and discussing the function of each part of the sensory system.

#### **Process/Skill Questions**

- What are the parts of this system?
- What is the function of each part?
- What are the common injuries and pathological conditions of this system?
- What are signs and symptoms of the different injuries and conditions?
- What are different tests used to assess for these injuries and conditions?
- What are clinical procedures used to treat these injuries and conditions?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- HOSA Bowl
- 

## **Understanding Nutrition**

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# Task Number 58

## Explain basics of nutrition.

### Definition

Explanation should include

- United States Department of Agriculture (USDA) dietary guidelines
- macronutrients and micronutrients (e.g., protein, carbohydrate, fat, vitamin, mineral)
- product labeling
- diet (the food you eat) vs. diet (the process of maintaining a healthy weight)
- weight management
- hydration.

### Process/Skill Questions

- How do the different components of My Plate relate to diet?
- What are the caloric values of protein, carbohydrate, and fat?
- How do nutrients impact diet? What percentage of the diet should be made up of each nutrient? How may this vary based on activity level?
- What are typical weight management goals? How can they be achieved?
- What role do specialized diets play in weight management? What are the pros and cons of fad diets?

### HOSA Competitive Events (High School)

#### Health Science Events

- Knowledge Test: Nutrition

#### Teamwork Events

- HOSA Bowl

### NASM-Certified Personal Trainer

#### Chapter 17 Nutrition

- Describe the macronutrients and their functions.
- Describe how the macronutrient composition of an individual's food intake can affect satiety, compliance, daily energy expenditure, and weight control.
- Provide basic nutritional recommendations for optimizing health.
- Answer questions, handle issues, and dispel myths regarding the relationship of macronutrients to the successful alteration of body composition.

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## **Task Number 59**

### **Explain factors that impact nutrition.**

#### **Definition**

Explanation should include how ergogenic aids, dietary supplements, eating disorders, disordered eating, fad diets, age, gender, socioeconomic, and ethnicity impact nutrition.

#### **Process/Skill Questions**

- What is the difference between disordered eating and an eating disorder? How do you recognize this difference?
- How may socioeconomic status and ethnicity impact nutrition?
- What effect may ergogenic aids and dietary supplements have on nutrition?

#### **HOSA Competitive Events (High School)**

##### **Health Science Events**

- Knowledge Test: Nutrition

##### **Teamwork Events**

- HOSA Bowl
- 

## **Task Number 60**

### **Explain how nutritional needs are impacted by physical activity.**

#### **Definition**

Explanation should include impact of physical activity on hydration, body-mass index (BMI), caloric balance equation, and the preparticipation meal.

#### **Process/Skill Questions**

- What are the consequences of exercising in a dehydrated state?

- What is an ergogenic aid? What are the consequences of abusing ergogenic aids such as anabolic steroids?
- What factors should be considered before taking “nutritional” supplements for performance enhancement?

## **NASM-Certified Personal Trainer**

### **Appendix E**

- Review fitness assessment considerations.
- Review concepts for program design.
- Describe hydration concepts.
- Identify fitness technologies and trends.
- Describe behavior change strategies for client results.
- Describe exam taking best practices and preparation.

### **Chapter 17 Nutrition**

- Describe the macronutrients and their functions.
- Describe how the macronutrient composition of an individual’s food intake can affect satiety, compliance, daily energy expenditure, and weight control.
- Provide basic nutritional recommendations for optimizing health.
- Answer questions, handle issues, and dispel myths regarding the relationship of macronutrients to the successful alteration of body composition.

### **Chapter 18 Supplementation**

- Define what dietary supplements are and describe the various classes and uses of them.
- Understand basic supplemental recommendations for optimizing health.
- Respond to questions about dietary supplements based on objective, scientific facts.
- Define the term ergogenic and common substances used to enhance performance.

### **Chapter 4 Exercise Metabolism and Bioenergetics**

- Describe the primary methods of how the body produces energy for exercise.
- Differentiate between aerobic and anaerobic metabolism.
- Distinguish which energy pathways predominate for various intensities and durations of exercise.
- Understand the interaction of carbohydrate, fat, and protein as fuels for exercise.
- State the differences in the energy use during steady state and exhaustive exercise.

- Discriminate between the energy requirements of steady state versus intermittent exercise.
  - Describe basic training-induced adaptations in energy production.
- 

## **Task Number 61**

### **Explain the relationship between nutrition and injury, illness, and health conditions.**

#### **Definition**

Explanation should include the impact of nutrition on

- injuries (e.g., dehydration, fractures, cramping, strain)
- illness (e.g., diabetes, cardiovascular disease)
- health conditions (e.g., obesity, osteoporosis, hormone imbalance).

#### **Process/Skill Questions**

- What are the long-term consequences, from an injury/illness perspective, of taking anabolic steroids, “nutritional” supplements, and other ergogenic aids?
- What role do age, gender, socioeconomic, and ethnicity play when evaluating nutritional considerations to prevent or address injury or illness?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Knowledge Test: Nutrition

#### **Teamwork Events**

- HOSA Bowl

### **NASM-Certified Personal Trainer**

#### **Chapter 16 Chronic Health Conditions and Physical or Functional Limitations**

- Define and describe the cause and symptoms of selected chronic health conditions.
- Describe the characteristics of selected health and age-related physical and functional limitations to exercise.

- Recognize how the conditions discussed in this chapter affect exercise training variables within the OPT™ model.
- Recognize how acute and chronic responses to exercise vary in clients with chronic health conditions or physical or functional limitations compared with apparently healthy clients.
- Describe how to modify program design for clients with chronic health and physical or functional limitations.

## Appendix E

- Review fitness assessment considerations.
- Review concepts for program design.
- Describe hydration concepts.
- Identify fitness technologies and trends.
- Describe behavior change strategies for client results.
- Describe exam taking best practices and preparation.

## Chapter 1 The Scientific Rationale for Integrated Thinking

- Explain the history of the profession of personal training.
- Identify common characteristics of personal training clients.
- Demonstrate an understanding of the principles of integrated exercise program design.
- Describe the Optimum Performance Training (OPT™) model.

## Chapter 17 Nutrition

- Describe the macronutrients and their functions.
- Describe how the macronutrient composition of an individual's food intake can affect satiety, compliance, daily energy expenditure, and weight control.
- Provide basic nutritional recommendations for optimizing health.
- Answer questions, handle issues, and dispel myths regarding the relationship of macronutrients to the successful alteration of body composition.

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## Task Number 62

### Perform a nutritional analysis.

#### Definition

Performance should include the collection of nutritional data for an individual over a period of time, followed by an examination of their caloric intake and nutritional composition, reflective of their activity level, age, and gender.

## **Process/Skill Questions**

- What is the interrelationship among activity level, caloric intake, and caloric expenditure, in terms of achieving specific nutritional or weight management goals?
- What percentage of an individual's calories should come from each nutrient? What components must a nutritional analysis contain to help answer this question?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Knowledge Test: Nutrition

### **Teamwork Events**

- HOSA Bowl

## **NASM-Certified Personal Trainer**

### **Chapter 17 Nutrition**

- Describe the macronutrients and their functions.
- Describe how the macronutrient composition of an individual's food intake can affect satiety, compliance, daily energy expenditure, and weight control.
- Provide basic nutritional recommendations for optimizing health.
- Answer questions, handle issues, and dispel myths regarding the relationship of macronutrients to the successful alteration of body composition.

### **Chapter 6 Fitness Assessment**

- Explain the components of and rationale for an integrated fitness assessment.
- Understand how to administer a health history questionnaire and then from that be able to stratify a client's overall risk for fitness assessment.
- Understand the importance of posture, how it relates to movement observation, and how to assess it.
- Understand how to perform a comprehensive health-related fitness assessment, obtain subjective and objective information about clients, and how to use the information collected to help design an exercise program.

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## **Task Number 63**

### **Interpret a nutritional analysis.**

## Definition

Interpretation should include evaluation of caloric intake and expenditure and nutritional composition in comparison to national standards and reflective of individual goals.

## Process/Skill Questions

- How do you modify a person's typical diet according to his/her goals? (e.g., healthy living vs. strength training vs. distance running)
- In a nutritional analysis, what special considerations should be accounted for regarding an individual's age and gender?

## HOSA Competitive Events (High School)

### Health Science Events

- Knowledge Test: Nutrition

### Teamwork Events

- HOSA Bowl

## NASM-Certified Personal Trainer

### Chapter 17 Nutrition

- Describe the macronutrients and their functions.
- Describe how the macronutrient composition of an individual's food intake can affect satiety, compliance, daily energy expenditure, and weight control.
- Provide basic nutritional recommendations for optimizing health.
- Answer questions, handle issues, and dispel myths regarding the relationship of macronutrients to the successful alteration of body composition.

### Chapter 19 Lifestyle Modification and Behavioral Coaching

- Describe the characteristics of a positive client experience.
- Understand the stages of change model.
- Describe characteristics of what effective communication skills are.
- Describe the elements of effective SMART goal-setting techniques.

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# Understanding Biomechanics

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## **Task Number 64**

### **Identify lever systems associated with the human body.**

#### **Definition**

Identification includes

- a description of the three classes of lever systems
- the components and functions of each system
- examples of how each lever class functions in the human body

#### **Process/Skill Questions**

- What are examples of each lever class in the human body?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

### **NASM-Certified Personal Trainer**

#### **Chapter 5 Human Movement Science**

- Explain the concept of functional multiplanar biomechanics including basic biomechanical terminology.
  - Describe how muscle actions and outside forces relate to human movement.
  - Explain the concepts of motor learning and motor control as they relate to exercise training.
- 

## **Task Number 65**

### **Describe the principles associated with the planes and axes of human movement.**

## **Definition**

Description should include

- anatomical position
- planes of motion, including frontal, transverse, and sagittal
- movements that occur in the separate planes

## **Process/Skill Questions**

- What is the anatomical position?
- What are the three planes associated with human movement?
- What are the motions that occur in each joint along each plane?
- What is the relationship between the planes and the axes of motion?
- Why is it important to understand what plane each joint moves in?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine

## **NASM-Certified Personal Trainer**

### **Chapter 11 Plyometric (Reactive) Training Concepts**

- Define plyometric (reactive) training and describe its uses.
- Discuss the importance of plyometric training.
- Design a plyometric training program for clients at various levels of fitness.
- Perform and instruct various plyometric training exercises.

### **Chapter 13 Resistance Training Concepts**

- Describe the stages of the general adaptation syndrome.
- Define and describe the principle of adaptation and specificity.
- Define stability, muscular endurance, muscular hypertrophy, strength, and power.
- List and define the various stages of strength and training systems.

### **Chapter 10 Balance Training Concepts**

- Define balance and describe its role in performance and injury risk.
- Discuss the importance of balance training.
- Design a progressive balance training program for clients in any level of training.
- Understand and incorporate the principles of selected research outcomes when designing a balance training program.
- Perform, describe, and instruct various balance training exercises.

### **Chapter 5 Human Movement Science**

- Explain the concept of functional multiplanar biomechanics including basic biomechanical terminology.
- Describe how muscle actions and outside forces relate to human movement.
- Explain the concepts of motor learning and motor control as they relate to exercise training.

### **Chapter 8 Cardiorespiratory Fitness Training**

- Define and describe the components associated with cardiorespiratory training.
- Describe how various physiologic systems respond and adapt to cardiorespiratory training.
- Describe the health-related benefits associated with cardiorespiratory fitness.
- Describe current guidelines and recommendations for prescribing safe and effective cardiorespiratory exercise to apparently healthy individuals.
- Describe how to design and implement cardiorespiratory training programs to a variety of clients using an individualized approach.
- Instruct clients on how to perform safe and effective cardiorespiratory exercise.

### **Chapter 9 Core Training Concepts**

- Understand the importance of the core musculature.
- Differentiate between the stabilization system and the movement system.
- Discuss the importance of core training.
- Design a core training program for clients at any level of training.
- Perform, describe, and instruct various core training exercises.

## **Task Number 66**

**Identify how force, mass, and gravity relate to human body mechanics.**

### **Definition**

Identification should include

- definitions of *force*, *mass*, and *gravity*
- how each of these components is related to human body mechanics
- how human body mechanics relate to Newton's Laws of Motion

### **Process/Skill Questions**

- How does force relate to human body mechanics?
- What are the different forces that act upon the human body?
- How does mass relate to human body mechanics?
- What is center of gravity?
- What are Newton's Laws of Motion?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine

### **NASM-Certified Personal Trainer**

#### **Chapter 11 Plyometric (Reactive) Training Concepts**

- Define plyometric (reactive) training and describe its uses.
- Discuss the importance of plyometric training.
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- Define balance and describe its role in performance and injury risk.
- Discuss the importance of balance training.

- Design a progressive balance training program for clients in any level of training.
- Understand and incorporate the principles of selected research outcomes when designing a balance training program.
- Perform, describe, and instruct various balance training exercises.

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- Describe how muscle actions and outside forces relate to human movement.
- Explain the concepts of motor learning and motor control as they relate to exercise training.

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### **Chapter 9 Core Training Concepts**

- Understand the importance of the core musculature.
- Differentiate between the stabilization system and the movement system.
- Discuss the importance of core training.
- Design a core training program for clients at any level of training.
- Perform, describe, and instruct various core training exercises.

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# **Understanding Medical Terminology**

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## **Task Number 67**

**Explain medical terminology commonly used in sports medicine.**

## **Definition**

Explanation should include terminology associated with anatomy, physiology, biomechanics, injuries, and common treatment and rehabilitation approaches.

## **Process/Skill Questions**

- How and why should medical terminology be used on a daily basis?
- How should medical terminology be used in the documentation process?
- When would it be appropriate to use medical terminology?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine
- 

## **Task Number 68**

### **Use appropriate medical terminology.**

## **Definition**

Use should occur in situations appropriate for written and oral communication.

## **Process/Skill Questions**

- Why would a sports medicine aide use medical terminology in communicating with varying types of medical professionals?
- How would a sports medicine aide use medical terminology in communicating with varying types of medical professionals?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling

- Medical Terminology

**Health Professions Events**

- Sports Medicine
- 

## **Task Number 69**

### **Explain commonly used prefixes and suffixes in medical terminology.**

#### **Definition**

Explanation should include dividing words into prefix, root, and suffix to determine origin of medical terms based on Greek, Latin, and other languages.

#### **Process/Skill Questions**

- What are common roots, prefixes, and suffixes associated with body parts? Physical conditions? Body movements?
- How is it helpful to a sports medicine aide to know the meaning of common roots, prefixes, and suffixes?

#### **HOSA Competitive Events (High School)**

**Health Science Events**

- Medical Spelling
- Medical Terminology

**Health Professions Events**

- Sports Medicine
- 

## **Understanding Injuries and Illnesses**

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### **Task Number 70**

## **Explain that a sprain is an injury to a ligament.**

### **Definition**

Explanation should include causes and degrees of injury to ligaments, to include subluxation and dislocation.

### **Process/Skill Questions**

- What is the difference between a first-, second-, and third-degree sprain?
- How is a sprain different from a dislocation or a subluxation?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine
- 

## **Task Number 71**

## **Explain that a strain is an injury to a muscle or tendon.**

### **Definition**

Explanation should include causes and degrees of injury to muscle or tendon.

### **Process/Skill Questions**

- What is the difference between a first-, second-, and third-degree strain?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine
- 

## **Task Number 72**

**Explain that a fracture is an injury to a bone.**

### **Definition**

Explanation should include causes and degrees of injury to a bone, to include simple, compound, comminuted, compression, depressed, impact, greenstick, spiral, avulsion, contrecoup, orbital blowout, stress, burst, and epiphyseal.

### **Process/Skill Questions**

- What are some common fractures in sports?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine
- 

## **Task Number 73**

**Demonstrate knowledge of basic taping and wrapping techniques for musculoskeletal injuries.**

### **Definition**

Demonstration should include taping an ankle, arch, and thumb, and doing a shoulder Spica wrap. It should also include the understanding that student aides are not permitted to tape or wrap athletes.

## Process/Skill Questions

- Why are student aides not permitted to wrap athletes?
- What is the technique for wrapping an ankle and a shoulder?

## HOSA Competitive Events (High School)

### Health Science Events

- Medical Terminology

### Health Professions Events

- Sports Medicine
- 

## Task Number 74

### Identify catastrophic injuries.

#### Definition

Identification should include injuries and conditions resulting in permanent disability or death:

- Acute (e.g., spinal injury, traumatic brain injury, profuse bleeding, shock)
- Environmental (e.g., lightning strike, exertional heat illness)
- Cardiac conditions, congenital or acquired (e.g., heart attack, hypertrophic cardiomyopathy, arrhythmias)

See [lightning safety](#) on National Athletic Trainers' Association (NATA) website.

See [best practice recommendations on sudden cardiac deaths from the Journal of Athletic Training](#).

## Process/Skill Questions

- What are some symptoms of catastrophic injuries?
- How can catastrophic injuries be prevented?

## HOSA Competitive Events (High School)

### Health Science Events

- Medical Spelling
- Medical Terminology

## Health Professions Events

- Sports Medicine

## NASM-Certified Personal Trainer

### Chapter 16 Chronic Health Conditions and Physical or Functional Limitations

- Define and describe the cause and symptoms of selected chronic health conditions.
  - Describe the characteristics of selected health and age-related physical and functional limitations to exercise.
  - Recognize how the conditions discussed in this chapter affect exercise training variables within the OPT™ model.
  - Recognize how acute and chronic responses to exercise vary in clients with chronic health conditions or physical or functional limitations compared with apparently healthy clients.
  - Describe how to modify program design for clients with chronic health and physical or functional limitations.
- 

## Task Number 75

### Identify neurological and brain injuries and conditions.

#### Definition

Identification should include

- concussions and intracranial bleeds (e.g., epidural bleeds, subdural bleeds)
- strokes
- seizure disorders
- central nervous system injuries
- peripheral nerve injuries.

See [consensus statement on concussion in sport](#), from the International Conference on Concussion in Sport, Berlin, 2016.

See [NATA position statement on concussion in sport](#).

#### Process/Skill Questions

- What are some of the signs and symptoms of a concussion?
- What is the difference between a subdural and epidural hematoma?
- What is epilepsy?

- What are the signs and symptoms of a stroke?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine

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## **Task Number 76**

### **Identify infectious and contagious diseases related to physical activity.**

#### **Definition**

Identification should include fungal, bacterial, and viral diseases that may be transmitted during physical activity or affect physical participation in physical activity, such as

- skin infections (e.g., ringworm, athlete's foot, impetigo, staph)
- respiratory infections (e.g., pneumonia, bronchitis)
- blood-borne infections (e.g., septicemia, hepatitis)
- systemic infections (e.g., influenza, mononucleosis, Lyme disease).

See [NATA position statement on skin diseases.](#)

#### **Process/Skill Questions**

- What is the appropriate management of care for skin infections such as ringworm, athlete's foot, impetigo, and Methicillin-resistant Staphylococcus aureus (MRSA)?
- When are athletes with contagious skin infections permitted to participate in their sport?
- In what ways can athletes prevent spreading skin infections and respiratory infections?
- What are the signs and symptoms of influenza, mononucleosis, and Lyme disease?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

#### **Health Professions Events**

- Sports Medicine
- 

## **Task Number 77**

### **Identify other health conditions that affect participation in physical activity.**

#### **Definition**

Identification should include, but is not limited to

- asthma
- blood disorders (e.g., sickle-cell trait, sickle-cell disease, anemia)
- diabetes
- Marfan syndrome
- postural orthostatic tachycardia syndrome (POTS)
- hernia
- dehydration.

#### **Process/Skill Questions**

- How can each condition affect participation in physical activity?

#### **HOSA Competitive Events (High School)**

##### **Health Science Events**

- Medical Spelling
- Medical Terminology

##### **Health Professions Events**

- Sports Medicine

#### **NASM-Certified Personal Trainer**

#### **Chapter 16 Chronic Health Conditions and Physical or Functional Limitations**

- Define and describe the cause and symptoms of selected chronic health conditions.
  - Describe the characteristics of selected health and age-related physical and functional limitations to exercise.
  - Recognize how the conditions discussed in this chapter affect exercise training variables within the OPT™ model.
  - Recognize how acute and chronic responses to exercise vary in clients with chronic health conditions or physical or functional limitations compared with apparently healthy clients.
  - Describe how to modify program design for clients with chronic health and physical or functional limitations.
- 

## **Task Number 78**

### **Explain common psychological responses to injury.**

#### **Definition**

Explanation should include

- identifying the five stages of grief/loss (i.e., denial, anger, bargaining, depression, acceptance)
- identifying other factors that may affect performance (e.g., substance abuse, fear of injury, stress)
- identifying how a concussion may mentally affect an injured person.

#### **Process/Skill Questions**

- What are the definitions of denial, anger, bargaining, depression, and acceptance?
- What is the link between concussions and depression?

## **Understanding Legal and Ethical Issues in Sports Medicine**

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### **Task Number 79**

#### **Distinguish among misfeasance, malfeasance, nonfeasance, and acts of commission/omission.**

## **Definition**

Distinction should include a definition of the terms and a comparison of misfeasance, malfeasance, nonfeasance (i.e., negligence), acts of commission, and acts of omission, providing examples related to sports medicine.

## **Process/Skill Questions**

- What is the definition of negligence as related to sports medicine legal situations?
- What are the similarities and differences among misfeasance, malfeasance, and negligence?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Terminology

### **Health Professions Events**

- Sports Medicine
- 

## **Task Number 80**

### **Explain the legal and ethical significance of documentation and record-keeping in sports medicine.**

## **Definition**

Explanation should include general guidelines regarding documentation in medical-related professions and the ethical and legal considerations associated with maintaining records.

## **Process/Skill Questions**

- In various professions associated with sports medicine, what are the legal requirements of record-keeping, including record format, retention, and accessibility?
- What ethical issues relate to record-keeping and documentation in various professions associated in sports medicine?

## **HOSA Competitive Events (High School)**

### **Health Professions Events**

- Sports Medicine

### **Teamwork Events**

- Biomedical Debate
- 

## **Task Number 81**

### **Explain the purpose and importance of medical documentation.**

#### **Definition**

Explanation should include the concept that documentation is a written record of observations and actions related to a certain medical event. It should emphasize that documentation facilitates communication among healthcare professionals and other significant parties.

#### **Process/Skill Questions**

- What is a subjective, objective, assessment and plan (SOAP) note? When should SOAP notes be written by certified/licensed allied healthcare professionals?
- What is involved in each of the components of a SOAP note?
- What are other types of documentation? What is the purpose of each?
- What parties may benefit from medical documentation? How might they benefit?

### **HOSA Competitive Events (High School)**

#### **Health Science Events**

- Medical Terminology

#### **Health Professions Events**

- Sports Medicine
- 

## **Task Number 82**

## **Document the history of an injury.**

### **Definition**

Documentation should include acquiring information on pre-existing conditions, related prior injury and or treatment, and the event of injury by asking both open-ended and closed questions.

### **Process/Skill Questions**

- What is the purpose of obtaining a history?
- What are some components of taking a significant history?
- What is the difference between an open-ended and a closed question? Why and when would you use open-ended versus closed questions?
- How are pre-existing conditions, related prior injury and/or treatment, and the event of injury relevant to history?

## **HOSA Competitive Events (High School)**

### **Health Science Events**

- Medical Spelling
- Medical Terminology

### **Health Professions Events**

- Sports Medicine

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## **Task Number 83**

### **Explain the legal and ethical significance of confidentiality in sports medicine.**

#### **Definition**

Explanation should include the influence of the Health Insurance Portability and Accountability Act (HIPAA), the Family Education Rights and Privacy Act (FERPA), and the Freedom of Information Act (FOIA) on confidentiality issues related to sports medicine.

See [HIPAA](#).  
See [FERPA](#).  
See [FOIA](#).

### **Process/Skill Questions**

- What is HIPAA? What is the impact of HIPAA guidelines on confidentiality?
- What is FERPA? What is the impact of FERPA guidelines on confidentiality?
- What is the relationship of HIPAA and FERPA on different practice settings for the sports medicine professional?
- What is FOIA? What is the impact of FOIA guidelines on confidentiality?

### **HOSA Competitive Events (High School)**

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- Biomedical Debate

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## **Task Number 84**

### **Identify the legal practice limitations of student aides vs. paraprofessionals vs. professionals in sports medicine.**

#### **Definition**

Identification should include the scope of practice of student aides, personal trainers, paraprofessionals, and professionals in sports medicine and any legal consequences associated with practicing outside the scope of practice.

See [Secondary School Student Aides](#) on NATA website.  
See [NASM-CPT Candidate Handbook](#) for scope of practice.  
See [NASM-BOC Code of Professional Conduct](#).

#### **Process/Skill Questions**

- What is the procedure to obtain licensure for sports medicine-related professions?
- What is the certification process for sports and fitness-related professions?

- What is the scope of practice of sports medicine and fitness-related professions?
- What are the differences and similarities in the scope of practice for student aides vs. personal trainers vs. paraprofessionals vs. professionals in sports medicine?

## **HOSA Competitive Events (High School)**

### **Health Professions Events**

- Sports Medicine

### **Teamwork Events**

- Biomedical Debate

## **NASM-Certified Personal Trainer**

### **Chapter 20 Developing a Successful Personal Training Business**

- Describe the qualities and characteristics of uncompromising customer service.
- Describe strategies for finding an ideal workplace.
- Understand the process for writing a resume.
- Understand the four Ps of marketing.
- Understand basic membership sales techniques, including strategies for solicitation of new sales and how to close sales.

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## **Task Number 85**

### **Identify the necessity of client/patient referral to other healthcare professionals and practitioners.**

#### **Definition**

Identification may include referrals regarding nutrition, injuries, disease, etc.

#### **Process/Skill Questions**

- What professionals can you refer patients to that need nutrition counseling?
  - In what situations would you refer a patient to another healthcare professional?
-

## **Task Number 86**

**Explain the implications that Americans with Disabilities Act (ADA) and cultural competence have within the field of sports medicine.**

### **Definition**

Explanation should include

- the basic principles included in the American with Disabilities Act (ADA) related to providing for disabled athletes and employees
- integrating cultural awareness in their interactions with clients/patients.

### **Process/Skill Questions**

- What accommodations must be included to comply with ADA requirements related to working with individuals in the sports medicine setting?
- What cultural similarities and differences are important to consider when working with an ethnically diverse population?
- What strategies are helpful to assure fairness, inclusiveness, and equitability when working with an ethnically diverse population?
- What considerations and strategies are helpful to assure fairness, inclusiveness, and equitability when working with individuals with disabilities?

### **HOSA Competitive Events (High School)**

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- Biomedical Debate

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## **Task Number 87**

**Demonstrate ethical behavior within the sports medicine profession.**

## **Definition**

Demonstration should reflect appropriate choices and behavior in the sports medicine and fitness work environment, such as maintaining confidentiality, working within the scope of practice, and working within the laws of the state/jurisdiction. It should also include adherence to ethical codes for sports medicine.

## **Process/Skill Questions**

- What are confidentiality considerations for sports medicine employees?
- Why is appropriate ethical behavior important to this employment setting?

## **HOSA Competitive Events (High School)**

### **Health Professions Events**

- Sports Medicine

## **NASM-Certified Personal Trainer**

### **Chapter 20 Developing a Successful Personal Training Business**

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- Understand the process for writing a resume.
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- Understand basic membership sales techniques, including strategies for solicitation of new sales and how to close sales.

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# **Exploring Sports Medicine Careers**

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## **Task Number 88**

**Explain the continuing education requirements in various sports medicine professions.**

### **Definition**

Explanation should include

- importance and requirements of continuing education for sports medicine professions
- the need for personal accountability for continuing education
- description of the approval of and record-keeping process for continuing education classes.

### **Process/Skill Questions**

- Why is continuing education important?
- What are the various categories of continuing education in the sports medicine profession (e.g., certifications, courses, degrees)?
- What are continuing education units? How does a professional earn continuing education units?
- Why do professional boards require continuing education? How do they monitor continuing education?
- How do professions grow through continuing education?

### **HOSA Competitive Events (High School)**

#### **Health Professions Events**

- Sports Medicine

#### **Leadership Events**

- Job-Seeking Skills

### **NASM-Certified Personal Trainer**

#### **Chapter 1 The Scientific Rationale for Integrated Thinking**

- Explain the history of the profession of personal training.
- Identify common characteristics of personal training clients.
- Demonstrate an understanding of the principles of integrated exercise program design.
- Describe the Optimum Performance Training (OPT™) model.

#### **Chapter 20 Developing a Successful Personal Training Business**

- Describe the qualities and characteristics of uncompromising customer service.
- Describe strategies for finding an ideal workplace.
- Understand the process for writing a resume.
- Understand the four Ps of marketing.

- Understand basic membership sales techniques, including strategies for solicitation of new sales and how to close sales.
- 

## **Task Number 89**

### **Identify organizations relevant to sports medicine professions.**

#### **Definition**

Identification should include listing organizations related to sports medicine professions and the purposes of each. It should include those that are directly affiliated (e.g., American College of Sports Medicine, National Academy of Sports Medicine) and those indirectly affiliated (e.g., Association of Allied Health Professions, National Athletic Trainers' Association) with sports medicine.

#### **Process/Skill Questions**

- What are major professional allied healthcare organizations directly affiliated with sports medicine? What are the benefits of membership?
- What are major professional allied healthcare organizations indirectly affiliated with sports medicine? What are the benefits of membership?

### **HOSA Competitive Events (High School)**

#### **Health Professions Events**

- Sports Medicine

#### **Teamwork Events**

- Health Career Display

### **NASM-Certified Personal Trainer**

#### **Chapter 1 The Scientific Rationale for Integrated Thinking**

- Explain the history of the profession of personal training.
- Identify common characteristics of personal training clients.
- Demonstrate an understanding of the principles of integrated exercise program design.
- Describe the Optimum Performance Training (OPT™) model.

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## **Task Number 90**

### **Identify credentials recognized in the sports medicine profession.**

#### **Definition**

Identification should include a variety of credentials and the governing body overseeing/regulating each credential. Credentials may include NASM-CPT, MD, ATC, DO, PT, PA, PTA, NP, RN, CSCS, PES, DC, DPM, LMP, RT, EMT, EMT-P, EMT-CT, among others.

#### **Process/Skill Questions**

- What are the credentials for various sports medicine professions? What does each mean? What is the specialty of each?
- Why is it important for an allied healthcare professional to earn credentials?

#### **HOSA Competitive Events (High School)**

##### **Health Professions Events**

- Sports Medicine

##### **Leadership Events**

- Job-Seeking Skills

#### **NASM-Certified Personal Trainer**

##### **Chapter 1 The Scientific Rationale for Integrated Thinking**

- Explain the history of the profession of personal training.
- Identify common characteristics of personal training clients.
- Demonstrate an understanding of the principles of integrated exercise program design.
- Describe the Optimum Performance Training (OPT™) model.

## **SOL Correlation by Task**

Explain blood-borne pathogens and the importance of universal precautions.	English: 11.5, 12.5 History and Social Science: GOVT.14, GOVT.15
Comply with the clinical site-specific exposure control plan.	
Explain the role of OSHA in the sports medicine profession.	History and Social Science: GOVT.14, GOVT.16
Complete a nationally recognized certification for first aid.	History and Social Science: GOVT.9
Complete a sports first aid module not included in a typical first aid course.	
Identify the components of a primary and secondary survey.	History and Social Science: GOVT.9
Complete a nationally recognized certification in CPR/AED (cardiopulmonary resuscitation/automatic external defibrillator).	History and Social Science: GOVT.9
Explain the integumentary system.	English: 11.5, 12.5 Science: BIO.4
Explain the musculoskeletal system.	English: 11.5, 12.5 Science: BIO.4
Explain the cardiovascular and circulatory systems.	English: 11.5, 12.5 Science: BIO.4
Explain the respiratory system.	English: 11.5, 12.5 Science: BIO.4
Explain the nervous system.	English: 11.5, 12.5 Science: BIO.4
Explain the urinary system.	English: 11.5, 12.5 Science: BIO.4
Explain the female reproductive system.	English: 11.5, 12.5 Science: BIO.4
Explain the male reproductive system.	English: 11.5, 12.5 Science: BIO.4
Explain the lymphatic and immune systems as they relate to inflammatory response after injury.	English: 11.5, 12.5 Science: BIO.4
Explain the digestive system.	English: 11.5, 12.5
Explain the endocrine system.	English: 11.5, 12.5

	Science: BIO.4
Explain the sensory system.	English: 11.5, 12.5
	Science: BIO.4
Explain basics of nutrition.	English: 11.5, 12.5
Explain factors that impact nutrition.	English: 12.5
Explain how nutritional needs are impacted by physical activity.	English: 11.5
Explain the relationship between nutrition and injury, illness, and health conditions.	English: 12.5
Perform a nutritional analysis.	
Interpret a nutritional analysis.	
Identify lever systems associated with the human body.	English: 11.5, 12.5
Describe the principles associated with the planes and axes of human movement.	English: 11.5, 12.5
Identify how force, mass, and gravity relate to human body mechanics.	English: 11.5, 12.5
	Science: PH.1, PH.5
Explain medical terminology commonly used in sports medicine.	English: 11.3, 11.5, 12.3, 12.5
Use appropriate medical terminology.	
Explain commonly used prefixes and suffixes in medical terminology.	English: 11.3, 12.3
Explain that a sprain is an injury to a ligament.	English: 11.5, 12.5
Explain that a strain is an injury to a muscle or tendon.	English: 11.5, 12.5
Explain that a fracture is an injury to a bone.	English: 11.5, 12.5
Demonstrate knowledge of basic taping and wrapping techniques for musculoskeletal injuries.	
Identify catastrophic injuries.	
Identify neurological and brain injuries and conditions.	
Identify infectious and contagious diseases related to physical activity.	English: 11.8, 12.8
Identify other health conditions that affect participation in physical activity.	
Explain common psychological responses to injury.	English: 11.5, 11.8, 12.5, 12.8
Distinguish among misfeasance, malfeasance, nonfeasance, and acts of commission/omission.	English: 11.5, 12.5
Explain the legal and ethical significance of documentation and record-keeping in sports medicine.	English: 11.5, 12.5
Explain the purpose and importance of medical documentation.	English: 11.5, 12.5
Document the history of an injury.	English: 11.8, 12.8
Explain the legal and ethical significance of confidentiality in sports medicine.	English: 11.5, 11.8, 12.5, 12.8

	History and Social Science: GOVT.11, GOVT.14, GOVT.15, GOVT.16
Identify the legal practice limitations of student aides vs. paraprofessionals vs. professionals in sports medicine.	English: 11.5, 11.8, 12.5, 12.8  History and Social Science: GOVT.16
Identify the necessity of client/patient referral to other healthcare professionals and practitioners.	
Explain the implications that Americans with Disabilities Act (ADA) and cultural competence have within the field of sports medicine.	English: 11.5, 12.5  History and Social Science: GOVT.1, GOVT.9, GOVT.11
Demonstrate ethical behavior within the sports medicine profession.	History and Social Science: GOVT.1, GOVT.11, GOVT.16
Explain the continuing education requirements in various sports medicine professions.	English: 11.5, 12.5
Identify organizations relevant to sports medicine professions.	English: 11.5, 11.8, 12.5, 12.8
Identify credentials recognized in the sports medicine profession.	English: 11.5, 11.8, 12.5, 12.8

## Teacher Resources

The resources listed below may be helpful to teachers as they plan and teach this course. Items with a call number in parentheses are available from the CTE Resource Center Library. Virginia public educators are eligible to borrow up to four library items at a time.

- American Academy of Orthopedic Surgeons (AAOS). <http://www.aaos.org/>. Careers, professional development.
- American Academy of Pediatrics (AAP). <http://www.AAP.org/>. Careers, professional development.
- American College of Sports Medicine (ACSM). <http://www.acsm.org/>. Careers, professional development.
- American Council on Exercise (ACE). <http://www.acefitness.org/>. Careers, professional development.
- American Heart Association (AHA). <http://www.americanheart.org/>. First aid and CPR/AED.
- American Medical Association (AMA). <http://www.ama-assn.org/>. Legal and ethical issues, professional development.
- American Physical Therapy Association (APTA). <http://www.apta.org/>. Careers, professional development.
- American Red Cross. <http://www.redcross.org/>. First aid and CPR/AED.
- Badasch, Chesebro. *Introduction to Health Occupations: Today's Health Care Worker*. Upper Saddle River, NJ: Pearson Prentice Hall, 2004. Medical terminology, careers.

- Becker, Joanne, et al. *Medical Terminology: Language for Health Care*. New York: Glencoe/McGraw-Hill, 2002. Medical terminology. (HO301.041)
- Board of Certification for the Athletic Trainer. <http://www.bocatc.org/>. Careers, professional development.
- Clover, Jim. *Sports Medicine Essentials*. Clifton Park, NY: Delmar Learning, 2001. Prevention, nutrition, assessment, treatment, human anatomy and physiology, exercise physiology, legal and ethical issues, careers, professional development. (HO302.015)
- Dennerll, Jean Tannis. *Medical Terminology Made Easy*. Clifton Park, NY: Thomson Delmar Learning, 2003. Medical terminology. (HO301.047)
- Duyff, Roberta Larson. *Nutrition and Wellness*. New York: Glencoe/McGraw-Hill, 2004. Nutrition. (HE655.169)
- Ehrlich, Ann, and Carol L. Schroeder. *Introduction to Medical Terminology*. Clifton Park, NY: Thomson Delmar Learning, 2004. Medical terminology. (HO301.045)
- Ehrlich, Ann, and Carol L. Schroeder. *Medical Terminology for Health Professions*. Clifton Park, NY: Thomson Delmar Learning, 2005. Medical terminology. (HO301.138)
- France, Robert C. *Introduction to Sports Medicine and Athletic Training*. Clifton Park, NY: Thomson Delmar Learning, 2004. Prevention, nutrition, assessment, treatment, human anatomy and physiology, exercise physiology, legal and ethical issues, careers, professional development. (HO302.016)
- Health Occupations Students of America (HOSA). <http://www.hosa.org/>. Student organization.
- International Fitness Professional Association. <http://nsca-cc.org/>. Careers, professional development.
- Kowtaluk, Helen, and Alice Orphanos Kopan. *Food for Today*. New York: Glencoe/McGraw-Hill, 2004. Nutrition. (HE655.171)
- Largen, Velda L., and Deborah L. Bence. *Guide to Good Food*. Tinley Park, IL: Goodheart-Willcox, 2004. Nutrition. (HE655.168)
- Lewandowski, Jeffrey. *Assessment of Unorthopedic Sports Injuries: A Sideline Reference Manual*. Thorofare, NJ: Slack, Inc. Assessment. (HO302.012)
- National Strength and Conditioning Association. NSCA Certification Commission. <http://nsca-cc.org/>. Careers, professional development.
- Rice University. Physical Activity Readiness Questionnaire (PAR-Q). <http://www.ruf.rice.edu/~ricerec/pages/PAR-Q.pdf>. Prevention.
- Rybski, Melinda. *Kinesiology for Occupational Therapy*. Thorofare, NJ: Slack, Inc., 2004. Prevention, assessment, biomechanics. (HO310.128)
- Scott, Ann Senisi, and Elizabeth Fong. *Body Structures and Functions*. Clifton Park, NY: Thomson Delmar Learning, 2004. Human anatomy and physiology, nutrition. (HO315.042)
- Sormunen, Carolee. *Terminology for Allied Health Professionals*. Clifton Park, NY: Thomson Delmar Learning, 2003. Medical terminology. (HO301.046)
- Starkey, Chad. *Therapeutic Modalities for Athletic Trainers*. Philadelphia: F.A. Davis, 2004. Treatment, exercise physiology.
- Tenpenny, Kevin. *Physical Therapist Assistant Exam Review*. Clifton Park, NY: Thomson Delmar Learning, 2004. Assessment, biomechanics, legal and ethical issues. (HO310.137)
- U.S. Department of Education. Family Policy Compliance Office. Family Educational Rights and Privacy Act (FERPA). <http://www.ed.gov/policy/gen/guid/fpc/index.html>. Legal and ethical issues.

- U.S. Department of Health and Human Services. Office for Civil Rights--HIPAA. <http://www.hhs.gov/ocr/hipaa/>. Legal and ethical issues.
- U.S. Department of Justice. Americans with Disabilities Act. *ADA Home Page*. <http://www.usdoj.gov/crt/ada/adahom1.htm>. Legal and ethical issues.
- U.S. Department of Labor. Occupational Safety and Health Administration. *OSHA Home Page*. <http://www.osha.gov/>. Legal and ethical issues.
- U.S. Equal Employment Opportunity Commission. <http://www.eeoc.gov/>. Legal and ethical issues.
- Virginia Board of Medicine. *Regulations Governing the Licensure of Athletic Trainers*. <http://www.dhp.state.va.us/medicine/leg/EthicsRegsAT.doc>. Legal and ethical issues.
- Virginia Career View. "Athletic Trainers." <http://www.vaview.vt.edu/career/indexOcc.cfm?id=35&searchLevel=912>. Careers.
- "Virginia Good Samaritan Act." *Code of Virginia* §8.01-225. <http://www.arlingtonva.us/Departments/EmergencyManagement/pdf/goodsam00.vaoems.pdf>. Legal and ethical issues.
- Virginia HOSA. <http://www.vahosa.org/>. Student organization.
- Winterstein, Andrew P. *Athletic Training Student Primer: A Foundation for Success*. Thorofare, NJ: Slack, Inc., 2003. Prevention, assessment, careers. (HO302.014)

# Appendix: Credentials, Course Sequences, and Career Cluster Information

## Industry Credentials: Only apply to 36-week courses

- Certified Group Fitness Instructor Examination
- College and Work Readiness Assessment (CWRA+)
- National Career Readiness Certificate Assessment
- Workplace Readiness Skills for the Commonwealth Examination

**Concentration sequences:** *A combination of this course and those below, equivalent to two 36-week courses, is a concentration sequence. Students wishing to complete a specialization may take additional courses based on their career pathways. A program completer is a student who has met the requirements for a CTE concentration sequence and all other requirements for high school graduation or an approved alternative education program.*

- Health Assisting Careers (8331/36 weeks)
- Introduction to Health and Medical Sciences (8302/36 weeks)
- Introduction to Health and Medical Sciences (8301/18 weeks)
- Sports Medicine II (7662/36 weeks, 280 hours)

Career Cluster: Health Science	
Pathway	Occupations
Diagnostics Services	Radiologic Technologist, Radiographer
Therapeutic Services	Athletic Trainer Exercise Physiologist Massage Therapist Occupational Therapist Occupational Therapist Aide Physical Therapist Physical Therapist Assistant