

## CUMBERLAND COUNTY COLLEGE

### Course: HS 218 Prevention and Care of Athletic Injuries

**Credits:** 3

#### Prerequisite

BI106

Students are also strongly encouraged to take HS105 Introduction to Athletic Training before taking HS218 Prevention and Care of Athletic Injuries.

#### Course Description

This class provides an examination of current practices and procedures in the basic pathology, prevention and care of athletic injuries. The laboratory experience exposes students to wound care, padding, and the art and science of athletic injury taping. An observational clinical field experience will be required.

#### Learning Objectives

This class is designed to meet the cognitive and psychomotor competencies set for by the NATA Competencies 4th edition. Therefore, the objectives of this course are a direct reflection of the NATA competencies. For a complete breakdown of the competencies assigned to this course, please refer to the RUAT Education Competency Booklet found in CCC's Athletic Training Room.

At the completion of this course, students will be able to:

- Explain the risk factors associated with physical activity.
- Identify and explain the risk factors associated with common congenital and acquired abnormalities, disabilities, and diseases.
- Identify and explain the epidemiology data related to the risk of injury and illness related to participation in physical activity.
- Explain the accepted guidelines, recommendations, and policy and position statements of applicable governing agencies related to activity during extreme weather conditions.
- Interpret data obtained from a wet bulb globe temperature (WGBT) or other similar device that measures heat and humidity to determine the scheduling, type, and duration of activity.
- Explain the components and purpose of periodization within a physical conditioning program
- Explain the principles and concepts related to prophylactic taping, wrapping, bracing, and protective pad fabrication
- Explain the principles and concepts related to the fabrication, modification, and appropriate application or use of orthotics and other dynamic and static splints. This includes, but is not limited to, evaluating or identifying the need, selecting the appropriate manufacturing material, manufacturing the orthosis or splint, and fitting the orthosis or splint.
- Recognize the clinical signs and symptoms of environmental stress.

- Select and fit appropriate standard protective equipment on the patient for safe participation in sport and/or physical activity. This includes but is not limited to: Shoulder Pads; Helmet/Headgear; Footwear; Mouth guard; Prophylactic Knee Brace; Prophylactic Ankle Brace; Other Equipment (as appropriate)
- Select, fabricate, and apply appropriate preventive taping and wrapping procedures, splints, braces, and other special protective devices. Procedures and devices should be consistent with sound anatomical and biomechanical principles.
- Obtain, interpret, and make decisions regarding environmental data. This includes, but is not limited to the ability to:
  - Operate a sling psychrometer and/or wet bulb globe index
  - Formulate and implement a comprehensive, proactive emergency action plan specific to lightening safety
  - Access local weather/environmental information
  - Assess hydration status using weight charts, urine color charts, or specific gravity measurements
- Describe the etiology, pathogenesis, pathomechanics, signs, symptoms, and epidemiology of common orthopedic injuries, illnesses and diseases to the body's systems.
- Describe the theories and techniques of interpersonal and cross-cultural communication among athletic trainers, patients, administrators, health care professionals, parents/guardians, and other appropriate personnel.
- Explain the effectiveness of taping, wrapping, bracing, and other supportive/protective methods for facilitation of safe progression to advanced therapeutic exercises and functional activities.
- Explain the legal, moral, and ethical parameters that define the scope of first aid and emergency care and identify the proper roles and responsibilities of the certified athletic trainer.
- Describe the availability, content, purpose, and maintenance of contemporary first aid and emergency care equipment.
- Determine what emergency care supplies and equipment are necessary for circumstances in which the athletic trainer is the responsible first responder.
- Describe the appropriate use of aseptic or sterile techniques, approved sanitation methods, and universal precautions for the cleansing and dressing of wounds.
- Explain the application principles of rest, cold application, elevation, and compression in the treatment of acute injuries.
- Describe the signs, symptoms, and pathology of acute inflammation.
- Identify the signs and symptoms of head trauma, including loss of consciousness, changes in standardized neurological function, cranial nerve assessment, and other symptoms that indicate underlying trauma.
- Define cerebral concussion, list the signs and symptoms of concussions, identify the methods for determining the neurocognitive status of a patient who sustains a concussion and describe contemporary concepts for the management and return-to-participation of a patient who sustains a concussion.
- Identify the signs, symptoms, and treatment of patients suffering from adverse reactions to environmental conditions.

- Describe home care and self-treatment plans of acute injuries and illnesses.
- Describe strategies for reducing the frequency and severity of asthma attacks.
- Explain the relationship of injury assessment to the systematic observation of the person as a whole.
- Describe the nature of diagnostic tests of the neurological function of cranial nerves, spinal nerves, and peripheral nerves using myotomes, dermatomes, and reflexes.
- Assess neurological status, including cranial nerve function, myotomes, dermatomes and reflexes, and circulatory status.
- Explain the roles of special tests in injury assessment.
- Describe strength assessment using resistive range of motion, break tests, and manual muscle testing.
- Describe the use of diagnostic tests and imaging techniques based on their applicability in the assessment of an injury when prescribed by a physician.
- Describe the clinical signs and symptoms of environmental stress.
- Describe and identify postural deformities.
- Explain medical terminology and abbreviations necessary to communicate with physicians and other health professionals

### **Topical Outline**

- Risk Management
- Pathology
- Professional Development
- Therapeutic Exercise
- Acute Care
- Medical Conditions
- Diagnosis

### **Required Texts and Other Materials**

Prentice, W., *Arnheim's Principles of Athletic Training: A Competency Based Approach*. McGraw-Hill

Beam, J., *Orthopedic Taping, Wrapping, Bracing and Padding*, F.A. Davis

### **Reference Texts**

Starkey C. and Ryan J., *Evaluation of Orthopedic and Athletic Injuries, 2<sup>nd</sup> Edition*, F.A. Davis. (2002).

Hoppenfeld S., *Physical Examination of the Spine and Extremities*. Norwalk: Appleton-Century-Crofts. (1976).

Kendall F. P., McCreary E. K., and Provance P.G. *Muscle Testing and Function, 4<sup>th</sup> Edition*, Lippincott, Williams & Wilking: Philadelphia. (1993)

Konin J. G., Wilksten D. L., and Isear J. A. *Special Tests for Orthopedic Examination*. Slack:Thorophare. (1997)

### **Student Assessment**

Written tests (2) at 10% each = 20%

Oral Practical examinations (4) at 15% each= 60%

Written final examination = 20%

You will be responsible for three observation hours per week in the athletic training room at Cumberland County College. If you do not fulfill this requirement you will be given an incomplete for this class. You are required to hand-in a class and other conflict schedule to the clinical coordinator within the first two weeks of the semester. You will then be assigned clinical observation hours. You must attend all assigned clinical observation hours.

### **Academic Integrity**

Plagiarism is cheating. Plagiarism is presenting in written work, in public speaking, and in oral reports the ideas or exact words of someone else without proper documentation. Whether the act of plagiarism is deliberate or accidental [ignorance of the proper rules for handling material is no excuse], plagiarism is, indeed, a “criminal” offense. As such, a plagiarized paper or report automatically receives a grade of ZERO and the student may receive a grade of F for the semester at the discretion of the instructor.

### **Available Resources**

If you are having difficulty with work in this class, tutoring is available through the Success Center. If you think that you might have a learning disability, contact Project Assist at 856.691.8600, x1282 for information on assistance that can be provided to eligible students.

**(List availability of open labs and/or writing center)**

### **Before Withdrawing From This Course**

If a student experiences adverse circumstances while enrolled in this course and considers withdrawing, s/he should see an advisor (division or advisement center) BEFORE withdrawing from the class. A withdrawal may cause harmful repercussions to completion rate standards and overall GPA which can limit or eliminate future financial aid in addition to causing academic suspension.