



Department of Teaching & Learning
Parent/Student Course Information

ANATOMY AND SPORTS INJURY
(PE 7800)
One credit, one year
Grades 11-12

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION

This course will focus on basic anatomy (bones, muscles, ligaments, blood, and nerve supply) and recognition, treatment, and rehabilitation of injuries to the upper and lower body. Students will acquire an understanding of basic medical concepts and healing processes. Treatment principles and techniques for acute and chronic injuries will also be covered. Laboratory sessions are included for taping and wrapping techniques. Enrollment is based on recognized interest in sports medicine or other allied health fields and requires the instructor's approval.

PREREQUISITE

Biology

Open to students in grades 10-12.

REQUIRED STUDENT TEXTBOOK

Principles of Athletic Training, A Competency-Based Approach
Fifteen Edition, 2014

GOALS

The Anatomy and Sports Injury course of study will assist each student in:

- developing a foundation of concepts for understanding the characteristics and functions of anatomical structures
- developing investigative skills in order to delineate injuries, including interpreting data, drawing conclusions, and conducting investigations of injuries
- applying the processes of logical thinking to make responsible decisions about appropriate treatment of injuries
- understanding the place of sports medicine in all areas of health related careers

LABORATORY EXPERIENCES

Laboratory experiences will be conducted for each of the joint areas identified. These labs will include location of the injured site, evaluation and testing, and wrapping/taping practice.

COURSE OBJECTIVES

The Anatomy and Sports Injury course has sixteen units including the introduction. Each unit contains objectives, laboratory experiences, and textbook references.

Content Standard

1.0 *Examine the foundation of sports medicine.*

- 1.0.a Identify members of the primary sports medicine team and describe their roles and responsibilities in sports injury management.
- 1.0.b Explain the parameters of legal, ethical, and professional practice within the fields of health and medical sciences certification standards of professional practice for athletic trainers.
- 1.0.c Explore potential job opportunities for an individual interested within the fields of health and medical sciences.

2.0 *Examine the musculoskeletal anatomy and physiology of the body*

- 2.0.a Locate and identify major skeletal anatomy.
- 2.0.b Utilize correct medical terminology to identify anatomical regions and planes, body position and motion.

3.0 *Analyze the sports injury assessment process.*

- 3.0.a Differentiate between the History/Observation/Palpation/Special tests (HOPS) injury assessment format and the Subjective/Objective/Assessment/Plan (SOAP) note format used to assess and manage a sports-related injury.
- 3.0.b Analyze emergency action plan for an athletic setting.
- 3.0.c Examine the primary survey vs. secondary survey in injury assessment.
- 3.0.d Identify supplies and emergency equipment that should be present at an athletic event.
- 3.0.e. Classify diagnostic testing techniques used by medical specialists.

4.0 *The student will examine the structure of bony and soft tissue, and causes and classifications of tissue injuries and repair.*

- 4.0.a Utilize the correct medical terminology for joint identification and components of joints, including ligaments, cartilage, bursa, tendons and capsule.
- 4.0.b Compare and contrast mechanisms of injury.
- 4.0.c Examine classifications of soft tissue injuries.
- 4.0.d Examine classifications of bone injuries.
- 4.0.e Compare and contrast phases of healing for bony and soft tissue injuries.
- 4.0.f Examine pain as an indicator of tissue injury.

5.0 *The student will analyze the modalities used in the treatment of sports injuries.*

- 5.0.a Describe the methods of application and physiological effects of cryotherapy, thermotherapy, ultrasound and electric stimulation.
- 5.0.b Describe the five basic massage strokes and explain the application and benefits of massage.
- 5.0.c Categorize therapeutic medications used to promote healing and mediate pain.

5.1 *The student will apply the principles of therapeutic exercise to specific sports injuries.*

- 5.1.a Explain the athletic trainer's role in dealing with the psychological influences on the healing process.
- 5.1.b Analyze the effects of pain on injury treatment programs.
- 5.1.c Explain the phases of a therapeutic exercise program, including the goals of these phases and methodology of implementation.
- 5.1.d Explain the benefits of utilizing an evidence-based approach in selecting therapeutic exercises for rehabilitation programs.
- 5.2 The student will examine the use of protective equipment as it relates to the prevention and rehabilitation of sports injuries.
- 5.2.a Explain the application of various protective devices used in the rehabilitation process.
- 5.2.b Identify the different types of soft and hard materials used to make protective pads.
- 5.2.c Explain the athletic trainer's legal duty of care in selecting and fitting protective equipment and rehabilitative devices.

6.0 *The student will examine the anatomy of the lower leg, foot, and ankle.*

- 6.0.a Examine the bony anatomy of the lower leg, foot and ankle.
- 6.0.b Examine the soft tissue anatomy of the lower leg, foot and ankle.
- 6.0.c Identify the conditions/injuries of the lower leg, foot and ankle.
- 6.0.d Apply injury evaluation procedures for the lower leg, foot and ankle.
- 6.0.e Evaluate injury prevention strategies, protective equipment, and rehabilitation practices for the lower leg, foot and ankle.
- 6.0.f Investigate injury scenarios and apply anatomical knowledge and treatment protocols of the lower leg, foot and ankle.

7.0 *The student will examine the anatomy of the knee and upper leg.*

- 7.0.a Examine the bony anatomy of the knee and upper leg.
- 7.0.b Examine the soft tissue anatomy of the knee and upper leg.
- 7.0.c Identify the conditions/injuries of the knee and upper leg.
- 7.0.d Apply injury evaluation procedures for the knee and upper leg.
- 7.0.e Evaluate injury prevention strategies, protective equipment, and rehabilitation practices of the knee and upper leg.
- 7.0.f Investigate injury scenarios and apply anatomical knowledge and treatment protocols of the knee and upper leg.

8.0 *The student will examine the anatomy of the hip and pelvic girdle.*

- 8.0.a Examine the bony anatomy of the hip and pelvic girdle.
- 8.0.b Examine the soft tissue anatomy of the hip and pelvic girdle.
- 8.0.c Identify the conditions/injuries of the hip and pelvic girdle.
- 8.0.d Apply injury evaluation procedures for the hip and pelvic girdle.
- 8.0.e Evaluate injury prevention strategies, protective equipment, and rehabilitation practices of the hip and pelvic girdle.
- 8.0.f Investigate injury scenarios and apply anatomical knowledge and treatment protocols of the hip and pelvic girdle.

9.0 *The student will examine the anatomy of the wrist and hand.*

- 9.0.a Examine the bony anatomy of the wrist and hand.
- 9.0.b Examine the soft tissue anatomy of the wrist and hand.
- 9.0.c Identify the conditions/injuries of the wrist and hand.
- 9.0.d Apply injury evaluation procedures for the wrist and hand.
- 9.0.e Evaluate injury prevention strategies, protective equipment, and rehabilitation practices of the wrist and hand.
- 9.0.f Investigate injury scenarios and apply anatomical knowledge and treatment protocols of the wrist and hand.

10.0 *The student will examine the anatomy of the upper arm, elbow and forearm.*

- 10.0.a Examine the bony anatomy of the upper arm, elbow and forearm.
- 10.0.b Examine the soft tissue anatomy of the upper arm, elbow and forearm.
- 10.0.c Identify the conditions/injuries of the upper arm, elbow and forearm.
- 10.0.d Apply injury evaluation procedures for the upper arm, elbow and forearm.
- 10.0.e Evaluate injury prevention strategies, protective equipment, and rehabilitation practices of the upper arm, elbow and forearm.
- 10.0.f Investigate injury scenarios and apply anatomical knowledge and treatment protocols of the upper arm, elbow and forearm.

11.0 *The student will examine the anatomy of the lower leg, foot and ankle.*

- 11.0.a Examine the bony anatomy of the shoulder girdle.
- 11.0.b Examine the soft tissue anatomy of the shoulder girdle.
- 11.0.c Identify the conditions/injuries of the shoulder girdle.
- 11.0.d Apply injury evaluation procedures for the shoulder girdle.
- 11.0.e Evaluate injury prevention strategies, protective equipment, and rehabilitation practices of the shoulder girdle.
- 11.0.f Investigate injury scenarios and apply anatomical knowledge and treatment protocols of the shoulder girdle.

12.0 *The student will examine the anatomy of the head and face.*

- 12.0.a Examine the bony anatomy of the head and face.
- 12.0.b Examine the soft tissue anatomy of the head and face.
- 12.0.c Identify the conditions/injuries of the head and face.
- 12.0.d Apply injury evaluation procedures for the head and face.
- 12.0.e Evaluate injury prevention strategies, protective equipment, and rehabilitation practices of the head and face.
- 12.0.f Investigate injury scenarios and apply anatomical knowledge and treatment protocols of the head and face.

13.0 *The student will examine the anatomy of the spine and thorax.*

- 13.0.a Examine the bony anatomy of the spine and thorax.
- 13.0.b Examine the soft tissue anatomy of the spine and thorax.
- 13.0.c Identify the conditions/injuries of the spine and thorax.
- 13.0.d Apply injury evaluation procedures for the spine and thorax.
- 13.0.e Evaluate injury prevention strategies, protective equipment, and rehabilitation

- practices of the spine and thorax.
- 13.0.f Investigate injury scenarios and apply anatomical knowledge and treatment protocols of the spine and thorax.

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For further information please call (757) 263-1070.

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Alternative formats of this publication which may include taped, Braille or large print materials are available upon request for individuals with disabilities. Call or write The Department of Teaching and Learning, Virginia Beach City Public Schools, 2512 George Mason Drive, P.O. Box 6038, Virginia Beach, VA 23456-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email her at Brenda.Fuller@VBSchools.com

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CHARTING THE COURSE

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