

## ATHLETIC INJURIES B

**District Name:** Mission  
**District Number:** 75

**Developed by:** Mr. Jivan Dhaliwal  
**School Name:** Heritage Park Secondary  
**Principal's Name:** Mr. Kevin Kaardal

**Board/Authority Approval Date:** January 15, 2004

**Board/Authority Signature:**

**Course Name:** Athletic Injuries B  
**Grade Level of Course:** 11  
**Number of Course Credits:** 2  
**Number of Hours of Instruction:** 60

**Prerequisite(s):**

None. However a strong background in Science and P.E. is recommended.

**Special Training, Facilities or Equipment Required:**

The instructor must be accredited by SportMed B.C.

**Course Synopsis:**

This course will be designed to teach student how to identify, assess and manage common athletic injuries. Further, students will be able to analyze a proactive management approach to ensure that the occurrence of future injuries is minimized. The learning outcomes in the course are grouped under 6 main curriculum organizers:

- The role of the Athletic Trainer
- Human Anatomy and Physiology
- Injury Assessment and Management
- Common Athletic Injuries
- Injury Prevention
- Practical Simulations

**Rationale:**

Upon successful completion of the course and having achieved a min. of 60%, students will be eligible for certification through **SportMed. BC.**

**Organizational Structure:**

Unit	Title	Time
Unit 1	Introduction to Athletic Training	12 hours
Unit 2	Human Anatomy/Physiology	30 hours
Unit 3	Injury Assessment and Management	9 hours
Unit 4	Common Athletic Injuries	24 hours
Unit 5	Injury Prevention	10 hours
Unit 6	Practical Simulations	35 hours
	Total Hours	120 hours

## **Unit/Topic/Module Descriptions:**

### **Unit 1: Introduction to Athletic Training**

Students will be introduced to athletic training and the legal/ethical considerations that must be addressed before, during and after competitive play. They will be exposed to problematic scenarios where an athletic trainer has to use their critical thinking skills to address an injured athlete's concerns, while following *SportMed B.C.*'s prescribed ethical guidelines. The principle of "referring up" or "passing the buck" to the next most qualified individual on hand will be reinforced to ensure that the injured athlete receives the best possible medical treatment, while ensuring the trainer stays within their level of expertise.

### **Curriculum Organizers and Learning Outcomes**

#### **Curriculum Organizer – Sports Aid Themes**

*It is expected that students will be able to:*

1. Identify and explain the importance of adhering to the 3 Sports Aid themes.
2. List the components of the BC Sports Aid program.

#### **Curriculum Organizer – Athletic Training and the Student Trainer**

*It is expected that students will be able to:*

1. Differentiate between the role of a trainer and of a physician.
2. Analyze the importance of professional behavior.
3. Explain the importance of the "Good Samaritan Act".
4. Differentiate between intentional and unintentional torts.
5. Identify the legal rights of both the plaintiff and defendant in a sport specific civil case.
6. Discuss strategies to minimize the legal risks associated with athletic training.
7. Examine various career opportunities available within the discipline of athletic training.

### **Unit 2: Human Anatomy/Physiology**

Before students can understand the effects of trauma on the human body, they need to be able to identify the major physical and physiological support systems within the human body. This comprehensive unit will require the students to not only identify the major components of the human body, but also analyze how these bodily systems interact inclusively with one another.

### **Curriculum Organizers and Learning Outcomes**

#### **Curriculum Organizer – Energy Systems**

*It is expected that students will be able to:*

1. Identify the 3 major energy systems in our body.
2. Explain how our intensity level effects which energy system our body uses.

#### **Curriculum Organizer – Muscles**

*It is expected that students will be able to:*

1. Identify the gross skeletal muscles in the human body.
2. Explain which muscles groups are responsible for the body's major movements.
3. Explain how a muscle contraction causes human movement.
4. Differentiate between an originating and inserting tendon.

#### **Curriculum Organizer – Bones**

*It is expected that students will be able to:*

1. Identify the major bones in the human body
2. Differentiate between the diaphysis, epiphysis and shaft portions on a long bone.
3. Analyze the degrees of movement at different joints within the human body.

### **Curriculum Organizer – Cardiovascular System**

*It is expected that students will be able to:*

1. Explain how the blood moves between the arteriole system, capillary network, to the venous system.
2. Analyze how nutrient exchange occurs at the capillary level.

### **Curriculum Organizer – Respiratory System**

*It is expected that students will be able to:*

1. Identify the major anatomical components of the respiratory system.
2. Explain the role of the respiratory system in expelling wasteful byproducts.
3. Analyze how the respiratory and cardiovascular systems work together to provide oxygen to the human body.

### **Curriculum Organizer – Nervous System**

*It is expected that students will be able to:*

1. Differentiate between the sympathetic and parasympathetic nervous systems.
2. Explain the important role neurotransmitters play during a muscular contraction.
3. Identify the major anatomical components of the nervous system

### **Curriculum Organizer – Joints**

*It is expected that students will be able to:*

1. Identify the anatomical support structures located within a joint.
2. Analyze the different degrees of movement at various joint located on the human body.
3. Identify and differentiate between the 5 classes of joints.

## **Unit 3: Injury Assessment and Management**

This goal of this unit is expose students to many of the life threatening situations that can occur during a sporting event. In particular, students will be shown how to get organized and take proactive steps to ensure that they are prepared for any life threatening emergencies. Criteria to evaluate whether an athlete should be prevented from participating in a contact sport will also be discussed to ensure no one is placed in a life threatening situation. Further, the students will be able to analyze the physiology of trauma and how it creates swelling at an injury site.

### **Curriculum Organizers and Learning Outcomes**

#### **Curriculum Organizer –Event Management**

*It is expected that students will be able to:*

1. Explain the different prescribed roles during a medical emergency
2. Identify the referral pattern to see a doctor, when an athlete is suffering from an acute or chronic injury.
3. Analyze the components of the “Primary Survey” and “Priority Action Approach”.
4. Understand the importance of a physician’s preseason medical screening.

#### **Curriculum Organizer – Life Threatening Situations**

*It is expected that students will be able to:*

1. Identify the signs and symptoms of the different life threatening situation can occur during a sporting event.
2. Identify how to stabilize an athlete while waiting for advanced medical help
3. Explain the importance of the priority action approach during a life threatening situation.

#### **Curriculum Organizer – Non-Life Threatening Trauma**

*It is expected that students will be able to*

1. Explain the physiology of trauma and how swelling occurs.
2. Analyze how the use of the “R.I.C.E” and “H.O.P.S.” principles can reduce the amount swelling.
3. Identify the treatment and referral pattern for non-life threatening injuries.

## **Unit 4: Common Athletic Injuries**

This goal of this unit is to expose students to the common acute and chronic athletic injuries that occur during a sporting event. A major emphasis in this unit will be the application and reinforcement of the learning outcomes covered during Unit 2 (*Human Anatomy and Physiology*) and Unit 3 (*Injury Assessment and Management*). Students will now be expected to not only identify and locate frequently injured anatomical landmarks on a partner, but also begin to assume the role of an athletic trainer. Further, students will be given the opportunity to enhance their critical thinking and decision making skills when assessing an injured athlete.

### **Curriculum Organizers and Learning Outcomes**

#### **Curriculum Organizer – Lower Leg Injuries**

*It is expected that students will be able to:*

1. Identify and locate the anatomical landmarks in the lower leg region.
2. Analyze the different injury mechanisms that cause trauma in the lower leg region.
3. Discuss strategies to help minimize the risk of injury in the lower leg region.
4. Demonstrate competency when executing the *closed basket weave*, *open basket weave*, *achilles tendon*, *heel lock*, *modified gibney*, *ankle taping* and *foot arch* tape jobs

#### **Curriculum Organizer – Knee**

*It is expected that students will be able to:*

1. Identify and locate the anatomical landmarks in the knee region.
2. Analyze the different injury mechanisms that cause trauma in the knee region.
3. Discuss strategies to help minimize the risk of injury in the knee region.
4. Demonstrate competency when *taping* the knee for support and when executing the *patellar strap* tape job.

#### **Curriculum Organizer – Thorax/Abdomen/Lower Back**

*It is expected that students will be able to:*

1. Identify and locate the anatomical landmarks in the thorax/abdomen/lower back regions.
2. Analyze the different injury mechanisms that cause trauma in the thorax/abdomen/lower back regions.
3. Discuss strategies to help minimize the risk of injury in the thorax/abdomen/lower back regions.

#### **Curriculum Organizer – Shoulder**

*It is expected that students will be able to:*

1. Identify and locate the anatomical landmarks in the shoulder region.
2. Analyze the different injury mechanisms that cause trauma in the shoulder region.
3. Discuss strategies to help minimize the risk of injury in the shoulder region.

#### **Curriculum Organizer – Elbow**

*It is expected that students will be able to:*

1. Identify and locate the anatomical landmarks in the elbow region.
2. Analyze the different injury mechanisms that cause trauma in the elbow region.
3. Discuss strategies to help minimize the risk of injury in the elbow.
4. Demonstrate competency when executing *elbow hyperextension* tape job

#### **Curriculum Organizer – Wrist/Hand/Fingers/Thumb**

*It is expected that students will be able to:*

1. Identify and locate the anatomical landmarks in the wrist/hand/fingers/thumb regions.
2. Analyze the different injury mechanisms that cause trauma in the wrist / hand / fingers / thumb regions.
3. Discuss strategies to help minimize the risk of injury in the wrist / hand / fingers / thumb regions.
4. Demonstrate competency when executing the *contact thumb*, *thumb spica*, *finger buddy*, *contact wrist*, *wrist hyperflexion* and *hyperextension* tape jobs.

### **Curriculum Organizer – Concussions**

*It is expected that students will be able to:*

1. Identify and locate the different lobes in the brain.
2. Analyze the different injury mechanisms that cause concussions.
3. Discuss strategies to help minimize the risk of injury in the lower leg region.
4. Differentiate between a coup and a countercoup concussion
5. Evaluate the dangers of *secondary impact syndrome*.

### **Curriculum Organizer – Special/ Environmental Conditions**

*It is expected that students will be able to:*

1. Explain how the body reacts to extreme temperature conditions.
2. Identify the causes of different *viral, fungal* and *bacterial* infections and ways preventing their outbreak.

## **Unit 5: Injury Prevention**

One of the main themes in this course is to establish a *proactive approach* to injury management, where a trainer can help athletes during the pre and in-season stages of competition by ensuring that *intrinsic* variable such as fitness and nutrition are at optimal levels. Further, students will also be able to evaluate *external* variables (*ie. facilities, equipment and practice routines*) and their role in injury prevention.

### **Curriculum Organizers and Learning Outcomes**

#### **Curriculum Organizer – Facilities**

*It is expected that students will be able to:*

1. Analyze how to effectively evaluate sporting facilities to ensure that they meet optimal performance and safety standards.
2. Discuss how to effectively communicate and document facility concerns to supervising staff.

#### **Curriculum Organizer – Equipment**

*It is expected that students will be able to:*

1. Analyze different sporting implements to ensure that they meet optimal performance and safety standards.
2. Evaluate the effectiveness of different protective equipment used in a variety of team/individual sports.

#### **Curriculum Organizer – Nutrition**

*It is expected that students will be able to:*

1. Identify the different nutrients required for optimal performance.
2. Differentiate the net energy output of fats, carbohydrates and proteins.
3. Explain the importance of pre and post activity meals.
4. Analyze the effect of poor nutrition on athletic performance

#### **Curriculum Organizer – Physical Conditioning**

*It is expected that students will be able to:*

1. Discuss the importance of general and sport specific conditioning.
2. Identify the 5 components of fitness (*muscular strength, muscular endurance, muscular power, flexibility, cardiovascular*) and their individual contribution to an athlete's performance.
3. Analyze the correlation between poor physical conditioning and the frequency of injuries.
4. Identify and demonstrate the methods of evaluating the 5 components of fitness.

#### **Curriculum Organizer – Special Populations**

*It is expected that students will be able to:*

1. Identify the different concerns of the *elderly, pediatric, pre-pubescent* and *physical/mentally disabled* during a sporting event.
2. Identify and incorporate various *inclusive* injury prevention strategies.

#### **Curriculum Organizer – Mental Training**

*It is expected that students will be able to:*

1. Analyze the benefits of imagery and cognitive therapy when helping an athlete recover from an injury.
2. Demonstrate how to use simple, low risk methods imagery and cognitive therapy on an injured athlete to help facilitate recovery from an injury.

### **Unit 6: Practical Simulations**

This unit gives the students an opportunity to demonstrate the theoretical skills learned during the course and apply them in a mock practical injury simulation. This gives both the teacher and the student the ability to analyze the level of skill integration when interviewing and assessing an injured athlete. Further, students will also be given the opportunity to investigate a selected team or individual sport and evaluate the *sport specific* injury concerns/prevention strategies.

### **Curriculum Organizers and Learning Outcomes**

#### **Curriculum Organizer – *Mock Injury Scenarios***

*It is expected that students will be able to:*

1. Demonstrate the correct steps of the primary and secondary surveys when assessing an injured athlete.
2. Recommend the appropriate post evaluation action plan to meet the injured athlete's needs.
3. Identify the anatomy injured anatomy on the athlete.

#### **Curriculum Organizer – *Team/Individual Sport Injury Analysis***

*It is expected that students will be able to:*

1. Identify the common acute and chronic injuries specific to various team and individual sports.
2. Evaluate appropriate *sport specific* conditioning, practicing and injury prevention strategies.
3. Analyze which phases of competition within their selected sport have the greatest injury risks.
4. Explore the effectiveness of protective gear on preventing injuries in various team and individual sports.

#### **Curriculum Organizer – *Field Experience (10 hours)***

*It is expected that students will be able to:*

1. Apply the knowledge and principle of athletic training in an actual team/sport setting.
2. Understand the importance of professional behavior and being well prepared for all potential injury scenarios.
3. Assemble their own medical/first aid kit, selecting supplies that are important to their sporting environment.

### **Instructional Component:**

1. Direct Instruction
2. Indirect Instruction
3. Interactive Instruction
4. Independent Instruction
5. Labs (taping, conditioning, anatomy)
6. Group work
7. Practical/Role Playing Scenarios
8. Demonstrations/Modeling
9. Field Experience Journals

### **Assessment Component:**

- 85% of the grade will be based on formative evaluations conducted during the course.
- This formative evaluation will provide an indication of the student's mastery of the major instructional components covered during the course.
- 15% of the grade will be based on the practical final, where students must demonstrate their understanding of the theoretical concepts covered in the instructional modules in 2 (*min*) – 3 (*max.*) practical, role playing scenarios.

### Type of Assessment – Formative

Evaluation Components – Theory/Labs

Assessment Tools – Written Work, Case Studies, Labs, Theory Tests, Journals, Projects,  
Presentations

Value – 85% of Final mark

### Type of Assessment – Summative

Evaluation Components – Practical

Assessment Tools – Teacher, Self and Peer Evaluations on role play, using a *criterion based*  
checklist.

Value – 15% of Final mark

### **Learning Resources:**

1. Athletic Taping Manual (*SportMed B.C.*)
2. Sports First Aid Manual (*SportMed B.C.*)
3. Selected Course Readings package (*SportMed B.C.*)
4. Cramer Athletic Training Videos
5. Basic Athletic Training (*by Ken Wright and William Whitehill – A Cramer Resource*)
6. Athletic Training for Student Assistants (*by Lorin Cartwright and William Pitney – Human Kinetics Publishers*)
7. Internet (*World Wide Web*)

### **Additional Information:**

Upon successful completion of the course, students who achieve a min. of 60% will be eligible for certification through *SportMed B.C.*