COURSE TITLE

Kin 505 Activities, Injuries Disease in the Larger Society

On-Line offering

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Course Description.

Sports and exercise are a part of American society and are used as entertainment, leisure activity as well as a means to better health. Unfortunately while we partake in these activities few individuals are aware of the risks they are exposing themselves to. In addition as more women engage in sports and exercise medical science is realizing that many conditions and injuries are gender specific. It is well known that women athletes deal with reproductive, orthopedic and nutritional issues that differ greatly from men. Also we know that individual with varying diseases benefit greatly from exercise. This course will join, musculoskeletal anatomy, injuries, gender and special populations together to explain how an individual can enjoy activities safely. In addition this course will address the interpretation of current medical literature and how to utilize new information

Course pre-requisites

None.

Course Text

Undecided at this time.

Time and Room - This course is taught on line with recorded lectures.

Course Requirements

- Students will be expected view the lectures.
- Student will take the 4 on-line exams
- Students will submit a brief (3-5 page) essay describing a personal example of where injuries have impacted them.

Course Objectives

At the conclusion of this course the student will be able to:

- Know and understand the scope and breadth of the topic of sports injury. This includes common definitions of sport injuries and the type, severity, and epidemiology of these injuries.

- Understand the scientific basis to injury mechanism and epidemiology including how rehabilitation protocols are established and validated through research.

- Understand the anatomy of the covered areas. This includes bony, muscular and ligamentous anatomy.

- Understand the physiology of the body as it relates to the course. This will include respiratory physiology for asthma, endocrine function for diabetes and neurological function for the epileptic individual

- Understand the immune system as it relates to the individual with HIV or AIDS.

- Describe activity injury risk factors and know how to implement strategies to prevent injury and modify these common risk factors.

- Know and understand selected factors associated with activity; specifically eating disorders and nutrition, focusing on hydration.

- Know and understand the inflammatory reaction of tissues to trauma.

- Understand the connection between the inflammatory process and recommended procedures for treating inflammation. This includes the ability to implement basic injury treatment and techniques.

- Know and understand the type, recognition, and management of common sports injuries to the:
  - Head, neck, and face
  - Thoracic through coccygeal spine
  - Shoulder region
  - Arm, wrist, and hand
  - Thorax and abdomen
  - Hip and pelvis
  - Thigh and knee
  - Lower leg, ankle, and foot

- Know and understand the implications of sports participation by individuals suffering from asthma, diabetes, epilepsy

- Know and understand the special medical concerns faced by females participating in sports activity.

<u>Evaluation procedure</u>
Grading:

Four on-line exams	80%
Essay on disease or gender	10%
Summary from medical literature	10%

Grade Scale

93 -100 = A	90 – 92.99 = A-	
87 - 89.99 = B+	83 - 86.99 = B	80 - 82.99 = B -
77 - 79.99 = C+	73 - 76.99 = C	70 - 72.99 = C -
67 - 69.99 = D+	63 - 66.99 = D	60 - 62.99 = D -

Week 1

Musculoskeletal Skeletal System

Skeletal System

- Functions of skeletal system
- Anatomy of bone
- Naming of bones of axial and appendicular skeleton
- Structural and functional classification of joints
- Types of movement

Muscular System

- Overview of muscular system
- Origin, insertion and action
- Sliding Filament Model
- Neuromuscular junction
- Physiology of muscle contraction
- Muscle metabolism (ATP)

Week 1

Tissue Injury and Healing

- Injury Mechanisms
- Anatomical Properties of Soft Tissue
- Soft Tissue Classifications
- Soft Tissue Injuries
- Soft Tissue Healing
- Tendons Ligaments, Aponeurosis and Muscle
- Bone Injuries
  - Bone Fracture Healing
  - Classification of Skeletal Injuries'

Week 2

Foot, Ankle and Lower Leg

- General Anatomy
  - Joints of the Ankle
  - Movements of the Foot and Ankle
  - Ligaments
  - Muscles of the Lower Leg and Foot
  - Injury Mechanism, Signs and Symptoms, Prevention
  - Injuries Covered

Turf Toe
Ingrown Toenail
Metatarsalgia
Bunion
Retrocalcaneal Bursitis
Contusions
Shin Bruise
Acute Anterior Compartment
Ankle Sprains – Lateral - Medial
Achilles Tendon Strain
Achilles Tendon Rupture
Plantar Fasciitis
Jones Fracture

Week 2

Knee

General Anatomy

Joints of the Knee
Movements of the Knee
Ligaments
Muscles of the Knee
Injury Mechanism, Signs and Symptoms, Prevention

Injuries Covered

Bursitis
MCL Sprain
LCL Sprain
ACL Sprain
PCL Sprain
Meniscus Tear
Chondromalacia Patella
Patellar Dislocation
Extensor Rupture
Iliotibial Band Syndrome
Osteochondritis Dessicans
Osteochondral Fracture

Week 2

Hip, and Pelvis

General Anatomy

Joints of Hip and Pelvis
Movements of the Hip and pelvis
Ligaments
Muscles of the Hip and pelvis
Injury Mechanism, Signs and Symptoms, Prevention

Injuries Covered

Quad Contusion
Myositis Ossificans
Hamstring Strain
Quad Strain

Snapping Hip
Hip Pointer
Trochanteric Bursitis
Adductor Strain
Hip Fractures

Week 3

Thorax and Spine

General Anatomy
Vertebrae and Rib Cage
Movements of the Thorax
Functions of respiratory system
Anatomy of respiratory tract
Mechanics and regulation of breathing
Muscles of the Thorax
Injury Mechanism, Signs and Symptoms, Prevention

Injuries Covered
Cervical Sprain
Cervical Fracture
Cervical Dislocation
Cervical Strain
Brachial Plexus Sprain
Lumbar Sprain
Lumbar Strain
Sciatica
Herniated Disk
Spondylolysis

Week 3

Shoulder

General Anatomy
Joints of the Shoulder
Movements of the Shoulder
Muscles of the Shoulder
Injury Mechanism, Signs and Symptoms, Prevention

Injuries Covered
S-C Sprain
A-C Sprain
G-H sprain
G-H Dislocation – Anterior
G-H Dislocation - Posterior
Rotator Cuff Impingement
Subacromial Bursitis
Bicipital Tendinitis

Week 3

Elbow Forearm Wrist and hand

General Anatomy
Joints of the Elbow, Forearm, Wrist and Hand
Movements of the Elbow, Forearm Wrist and Hand

Muscles of the Elbow and Forearm Wrist and hand
Injury Mechanism, Signs and Symptoms, Prevention
Injuries Covered
Olecranon Bursitis
Dislocation
Medial Epicondylitis
Lateral Epicondylitis
Osteochondritis Dessicans
Collateral Ligament Sprains
Wrist Strain
Gamekeepers thumb
Phalangeal Dislocations
Jersey Finger
Mallet Finger
Ganglion
Carpal Tunnel Syndrome

Week 4

Head

General Anatomy
Skull - major bones
Cranial Bones
Facial Bones
Foramen Magnum

Brain

Nerve cell anatomy
Brain anatomy and hemispheres
Spinal cord anatomy, reflex arc
PNS (autonomic and somatic)
Sensory motor nerve functions
Sensory organs
Functions of nervous system

Injuries Covered
Epidural Hematoma
Subdural hematoma
Concussion

Post Concussion Syndrome

Week 4

Epilepsy and Sports Participation

Physiology of Seizures
Types of Seizures
Sports Concerns
Athlete's safety
Activities and Medication
Different Activities
High-risk activities
Low Risk Activities
Water sports

Myths about Epilepsy and Activity
First Aid

Week 4

The Asthmatic Athlete

Defining Asthma
Risk Factors for Development of Asthma
Contributing factors
Causes of Asthma
Asthma Classification
Signs of Asthma
Evaluating Asthma
Physical Examination
Types of Asthma
Extrinsic Asthma
Intrinsic Asthma
Exercise-induced asthma
Effect of medications on Activity
Guidelines for Safe Activity

Week 5

The Diabetic Athlete

Overview of the Endocrine System
Endocrine System
Functions of endocrine system

Overview of the Physiology of Diabetes
Types of Diabetes
Type 1 Diabetes Mellitus
Type 2 Diabetes Mellitus
Complication associated with Diabetes
Circulatory Complications
Nerve Complications
Hypoglycemia
Insulin Shock
Diabetic Coma
Nutritional Recommendations.
Guidelines for Safe Activity

Week 5

The Female Athlete

The Female Triad

- Menstrual Dysfunction
- Disordered Eating
- Decreased Bone Mineral Density

Anterior Cruciate Injuries

- Female Orthopedic overview
- Differences from male

- Training for prevention

Technical Requirements

Minimum Technical Requirements

To take part in an online course at UNH, you must be able to connect to Blackboard and access your course documents. UNH recommends that the computer you use meet the "Recommended for Current Purchases" requirements on the IT supported products Web site. Although you may be able to participate in a course online if you don't use a computer meeting these minimum specifications, you will have a better chance of success if you do.

To participate in a Blackboard course, you will also need:

- Access the Internet using a supported Web browser. You can find a list of "Certified" browsers online.
- Some courses may also require additional plug-ins.

To check your browser and plug-ins for compatibility with Blackboard:

- Log into Blackboard
- Click on the **MyUNH RESOURCES** tab under the My UNH logo
- Scroll down to the Browser Checker module.
- Click on **TEST BROWSER** and follow the on-screen instructions.

UNH IT maintains a comprehensive list of Supported Hardware.

If your course uses Tegrity:

In addition to the minimum requirements above, you will need to be able to install Silverlight 3, a plug-in that is available for Intel-based Mac, and PCs running Windows. You will also need speakers or headphones to listen to lecture. For more information on Silverlight 3, and to install it go to
http://www.microsoft.com/silverlight/resources/install.aspx

If your course is using Tegrity and you are using a Mac, please pay special attention to the information provided for Mac users. You will need an Intel-based Mac in order to view Tegrity lectures. If you do not know if you are using an Intel-based Mac, you can find out by following these steps:

- Click on the Apple Menu and choose "About this Mac."
- If you see G3, G4, or G5 on the line that says processor, your Mac is not Intel-based.

• If you see the word Intel anywhere on the processor line, your Mac is Intel-based.
You can also visit the Apple Technical Specs Web Site for more information. If you are unsure whether your Mac is Intelbased, please contact the UNH Help Desk at (603) 862-4242 or via the Web at http://it.unh.edu. If your course uses iLinc:

You will need to meet minimum requirements specified on the iLinc Web site. To test your computer to find out if you are properly prepared to use iLinc, go to http://demo.ilinc.com/systest Support

If you have problems using Blackboard, installing Silverlight, or using Tegrity, call (603) 862-4242 Monday through Friday between 8:00 am to 4:30 pm, or send your question to https://remedy.unh.edu/bb/support.shtml.

You can find online documentation for Blackboard, Tegrity, and other IDC-supported services on the IDC FIRST Web site. Just scroll down and click on a link for the help you need.