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

Only Blackboard Access

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

Course Requirements

Students will be expected view the lectures, answer appropriate feedback questions. If possible participate in Blackboard Collaborate discussion sessions. These ARE NOT mandatory and are only for your benefit. They have no impact on your grade.

Student will take the 4 non-cumulative on-line exams
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.

- 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.

Grading:

Test 1 20%
Test 2 20%
Test 3 20%
Test 4 20%
Quizzes 20%

Quizzes follow each section.

You get to take the quizzes and exams 2X with the higher grade counting

Grade Scale

93 -100 = A  
87 - 89.99 = B+  
83 - 86.99 = B  
77 - 79.99 = C+  
73 - 76.99 = 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

Basic Exercise Science

Muscle Fiber Types

Nutrient utilization

Sport Specific energetics

General Exercise Concepts
Cardiovascular effects of exercise
Muscular effects of exercise
General health effects of exercise
Weight training technique
Sample weight training program

Test 1
Week 2-3

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’

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

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

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

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

Test 2

Week 3-4

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

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

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

Test 3

4-5 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

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

The Diabetic Athlete

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
The Female Athlete

The Female Traid

· Menstrual Dysfunction

· Disordered Eating

· Decreased Bone Mineral Density

Anterior Cruciate Injuries

· Female Orthopedic overview

· Differences from male

· Training for prevention

Test 4