Theory of Athletic Injury - ES 300 Dennis Lesniak DC, MSACN, CSCS

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**Fall Semester 2012**

**M-W-F 9:00 – 9:50 am Office: 214 Kimball tower**

**148 DIEFENDORF Office Hrs: By Appointment only**

**3.0 Credit Hrs. E-mail:** [**lesniak2@buffalo.edu**](mailto:lesniak2@buffalo.edu)

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**Course Purpose:**

This course is designed to develop an understanding of sports medicine and how it relates to the field of exercise science. This course will provide information on how to begin a preliminary assessment of an injury including the identification of common signs and symptoms. Attention will be paid to prevention and care procedures for common injuries to the active population including emergency situations, and injuries to the extremities and head / neck. There will also be a clinical focus that will discuss common joint issues and associated muscular conditions, this will build directly upon your Gross Anatomy foundation.

**Course Objectives:**

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| **Competency Should be able to:** | **Objectives:**  **Knowledge, skills, and behaviors** | **Instruction**  **Method** | **Assessment** |
| Describe the relationship between structure and function of various organ systems as related to movement patterns and exercise responses and adaptations in response to exercise training in healthy and diseased states | Identify injury states and describe the effect they have on function related to exercise participation | Lecture | Written Exam |
| Identify symptoms or circumstances that contraindicate exercise or fitness testing | Describe the process for the application of exercise testing in rehabilitation of injury.  Discriminate between normal and pathological conditions assessed during pre-participation examinations | Lecture  Audio-visual recordings |
| Describe the anatomy of major organ systems and tissue structures in the human body | Describe the anatomical involvement and surface anatomy related to common pathology, illness, and injury common in exercise participation. | Lecture |
| Describe the signs and symptoms of, and standard medical care for common sport- or exercise-related injuries. | Describe signs and symptoms of various diseases and conditions commonly affecting the active population including shock, diabetic emergencies, asthma, heat illness, cold injury, and the appropriate care for each. |
| Describe the basic mechanisms of common sport- or exercise-related injuries and repair. | Describe emergency procedures, signs and symptoms of, and standard medical care for athletic injuries including hemorrhage, wound closure, fracture management, head, spinal, facial injuries and orthopedic injuries to the extremities. |

**Texts:**

Articles/videos/readings will be assigned throughout the semester.

**Email:**

We will do our best to respond to your emails in a timely and considerate manner. Please do not email us after 4:00pm on Friday and expect an immediate response. We will check our email periodically over the weekend but we cannot guarantee that we will respond before Monday morning.

**Attendance Policy:**

Attendance is MANDATORY for all class sessions. NO EXCUSES. As I begin to learn your names I will notice if you are not present, trust me. I will take attendance randomly so if you are of the “gambling spirit”, feel free to try the odds. More than two absences will result in a lowering of your final grade by ½ letter. (B+ to a B, C- to a D, etc.

**Course Requirements:**

Three written exams (non-cumulative). Exams will cover class notes and assigned readings and will be given according to the attached class schedule.

Cumulative Final Examination (optional). This examination can be taken, and if it is taken will replace your lowest examination score.

Your three highest examination scores will be averaged for your grade.

Each student who submits a completed online evaluation as reported to the Course Coordinator by the **SPHHP CoursEval Administrator** will be awarded a **1% increase in his/her overall course average**. CourseEval procedures protect the anonymity of student respondents – the Course Coordinator will receive a list of names of students who have submitted evaluations, but no faculty member receives evaluation reports (ratings and comments) before grades are submitted, and student names are not included on evaluation reports.

**Grading Scale:**

A = 93.01 to 100 B- = 80.00 to 83.00 D+ = 67.01 to 69.99

A- = 90.00 to 93.00 C+ = 77.01 to 79.99 D = 63.01 to 67.00

B+ = 87.01 to 89.99 C = 73.01 to 77.00 F ≤ 63.00

B = 83.01 to 87.00 C- = 70.00 to 73.00

* If you have any condition, such as physical, mental or learning disabilities which may compromise your ability to carry out the coursework as outlined, or to participate in laboratories, or if you require extra time on examinations, please notify me during the first to weeks of the course to discuss appropriate arrangements or reasonable accommodations.

**TENTATIVE COURSE OUTLINE: Text Reading:**

August 27 Introduction to Sports Medicine Peterson, Intro

29 Facility Safety & Emergency Management Grantham, Ch 13

31 Exercise Screening and Contraindications

September 5 Mechanism & Etiology of Injury Prentice, Ch 9

7 Tissue Healing Houglum, Ch 2

10 Tissue Healing

12 Basic Injury Care / Cryo & Thermotherapy Prentice, Ch 15 pp.

379 – 387

14 Basic Injury Care / Cryo & Thermotherapy

19 Exercise Rehabilitation Prentice & Arnh. Ch 12

21 Exercise Rehabilitation

24 Injury Epidemiology Basics Portney, Ch 15

Gordis, Ch 11

28 Musculoskeletal & CV Injury Risk Hootman in Lee, Ch 14 Verhagen in Bouchard,

Ch 19

October 1 Injuries of the foot & ankle Prentice & Arnheim

Ch14 & 15

3 Injuries of the ankle

5 Injuries of the ankle & lower leg

8 Injuries of the knee Prentice & Arnh. Ch16

10 Injuries of the knee

12 **EXAM #1**

15 Injuries of the knee

17 Injuries of the knee

19 Injuries of the thigh / hip / pelvis Prentice & Arnh. Ch17

22 Injuries of the thigh / hip / pelvis

24 Injuries of the lower back Prentice & Arnh. Ch20

26 Injuries of the lower back

29 Injuries of the lower back

31 Injuries of the shoulder Prentice & Arnh. Ch18

November 2 Injuries of the shoulder

4 Injuries of the shoulder

7 Injuries of the elbow Prentice & Arnh. Ch19

9 **EXAM #2**

12 Injuries of the wrist and hand Prentice & Arnh. Ch19

14 Cervical Spine injuries Prentice & Arnh. Ch20

16 Injuries to the Head and Face Prentice & Arnh. Ch22

19 Injuries to the Head and Face

26 Concussions

28 Concussions

30 Brain Injuries

December 3 Illness and Disease in Active Persons Prentice, Ch 6

5 Illness and Disease in Active Persons Anderson, Ch 20

7 **EXAM #3**

**OPTIONAL CUMMULATIVE** **EXAM #4, Scheduled During Exam Week**

**REFERENCES:**

**1-9**

**1. Anderson MK, Hall SJ. *Sports injury management*. 2nd ed. Philadelphia: Lippincott Williams & Wilkins; 2000.**

**2. Bouchard C, Blair SN, Haskell WL. *Physical activity and health*. Champaign, IL: Human Kinetics; 2007.**

**3. Gordis L. *Epidemiology*. 4th ed. Philadelphia: Elsevier/Saunders; 2009.**

**4. Grantham WC, Patton RW, York TD, Winick ML. *Health Fitness Management*. 1st ed. Champaign, IL: Human Kinetics; 1998.**

**5. Houglum PA. *Therapeutic exercise for athletic injuries*. Champaign, IL: Human Kinetics; 2001.**

**6. Lee IM. *Epidemiologic methods in physical activity studies*. Oxford ; New York: Oxford University Press; 2009.**

**7. Portney LG, Watkins MP. *Foundations of clinical research : applications to practice*. 2nd ed. Upper Saddle River, NJ: Prentice Hall; 2000.**

**8. Prentice WE. *Arnheim's principles of athletic training : a competency-based approach*. 14th ed. Boston: McGraw-Hill Higher Education; 2011.**

**9. Prentice WE, Arnheim DD. *Essentials of athletic training*. 6th ed. Boston: McGraw-Hill; 2005.**