EXSS 530 – EVIDENCE-BASED SPORTS MEDICINE
COURSE SYLLABUS — FALL TERM 2010

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Office Hours: TBA
Weekly course meetings: MWF from 9:00 to 9:50 am

I. COURSE DESCRIPTION: An evidence-based approach to the prevention, diagnosis, clinical management and rehabilitation of sports-related musculoskeletal injuries and conditions of the upper and lower extremities. PREREQ: EXSS 350 or equivalent. (3 credits)

II. INSTRUCTIONAL OBJECTIVES: At the conclusion of this course the student will be able to:

A. describe the general principles and evaluative techniques associated with evidence-based medicine (EBM) as applied to the evidence-based practice of sports medicine.

B. recognize the etiologies, symptomology and physiological processes of inflammation and healing associated with microtraumatic and macrotraumatic upper and lower extremity musculoskeletal injuries in sport.

C. summarize the current evidence related to sports injury epidemiology, prevention, diagnosis and clinical management techniques for sports-related upper and lower extremity musculoskeletal injuries.

D. describe the current conservative (nonsurgical) and surgical treatment techniques for sports-related musculoskeletal injuries in the upper and lower extremities.

E. demonstrate the ability to interpret, critique and assign a systematic grade to evidence-based sports medicine research related to upper and lower extremity musculoskeletal injuries.

III. STUDENTS WITH DISABILITIES

Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.
IV. REQUIRED TEXTBOOK:


V. EVALUATION PROCEDURES:

Grades will be awarded based upon the percentage of the maximum number of points (575) earned. The specific point total for each of the various evaluative criteria appears below, as well as the grading scale to be applied to the earned percentage values:

- Rhetorical précis of assigned readings (5 at 25 points each) ................. 125 points
- Midterm examination ................................................................. 100 points
- Systematic review of a selected orthopedic injury/condition ............. 150 points
- Oral presentation using Powerpoint slides .................................. 50 points
- Comprehensive final examination............................................. 150 points

**TOTAL** 575 points

Letter grades for this class will be calculated on a simple percentage basis, i.e., the percentage of the total 575 possible points you earn in the course. The following is the grading scale that will be employed in this class, along with the percentage range for each letter grade:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage Range</th>
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<tbody>
<tr>
<td>A</td>
<td>≥ 93.0%</td>
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<tr>
<td>A-</td>
<td>90-92.9</td>
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<tr>
<td>B+</td>
<td>87-89</td>
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<tr>
<td>B</td>
<td>83-86</td>
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<tr>
<td>B-</td>
<td>80-82</td>
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<tr>
<td>C+</td>
<td>77-79</td>
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<tr>
<td>C</td>
<td>73-76</td>
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<tr>
<td>C-</td>
<td>70-72</td>
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<td>D+</td>
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<td>D</td>
<td>63-66</td>
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<td>D-</td>
<td>60-62</td>
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<tr>
<td>F+</td>
<td>57-59</td>
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<tr>
<td>F</td>
<td>≤ 57.0%</td>
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VI. EXPECTATIONS REGARDING STUDENT CONDUCT:

The goal of Oregon State University is to provide students with the knowledge, skill and wisdom they need to contribute to society. Our rules are formulated to guarantee each student’s freedom to learn and to protect the fundamental rights of others. People must treat each other with dignity and respect in order for scholarship to thrive. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Student Conduct Program for disciplinary action. Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office. *(Source: OSU Student Conduct Regulations).*
VII. COMMITMENT TO DIVERSITY

The Department of Nutrition and Exercise Sciences strives to create an affirming climate for all students including underrepresented and marginalized individuals and groups. Diversity encompasses differences in age, color, ethnicity, national origin, gender, physical or mental ability, religion, socioeconomic background, veteran status, sexual orientation, and marginalized groups. We believe diversity is the synergy, connection, acceptance and mutual learning fostered by the interaction of different human characteristics.

VIII. RELIGIOUS HOLIDAYS:

Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please see me immediately so that we can make alternative arrangements.

IX. ACADEMIC DISHONESTY:

Academic dishonesty, as defined by Oregon State University, is an intentional act of deception in one of the following areas:

- **Cheating** – use or attempted use of unauthorized materials, information, or study aids.
- **Fabrication** – falsification or invention of any information.
- **Assisting** – helping another commit an act of academic dishonesty.
- **Tampering** – altering or interfering with evaluation instruments and documents.
- **Plagiarism** – representing the words or ideas of another person as one’s own.

The penalty for acts of academic dishonesty ranges from a grade of “F” for the assignment or test to expulsion from the course, academic major, or college. Violations of academic dishonesty in this class will be dealt with in accordance with University policy. If the nature of academic dishonesty is unclear to you, please contact your instructor, or refer to the information provided at the OSU Student Conduct website (http://osu.orst.edu/admin/stucon).
X. GUIDELINES FOR THE RHETORICAL PRÉCIS: To supplement the textbook and our in-class discussions, you will be asked to read lower extremity injury articles or meta-analyses published recently in sports medicine/orthopedics journals and write a brief critique.

A writing technique that recently caught my interest relative to this graduate course is the rhetorical précis (French: “a brief summary”). According to Woodworth¹, the rhetorical précis is a “highly structured four-sentence paragraph that records the essential rhetorical elements” of a written work, e.g., a sports medicine research article.

Woodworth¹ provides specific instructions/requirements for composing the four sentences that will form your précis:

Sentence 1: The name of the author(s), the date in parentheses, and the genre and title of the work; a rhetorically accurate verb (such as “assert”, “argue”, “suggest” “imply”, “claim”); and a THAT clause containing the major assertion (hypothesis or specific aim) of the work.

Sentence 2: An explanation of how the author develops and/or supports the hypothesis/specific aim, usually in chronological order.

Sentence 3: A statement about the author’s apparent purpose, followed by an “in order” phrase.

Sentence 4: A description of the intended audience and/or relationship the author establishes with the audience.


Here is a sample of a précis that I wrote after reading an article by Demeritt et al. Chronic ankle instability does not affect lower extremity functional performance. J Athletic Training 37: 507-511, 2002:

Kerry Demeritt and associates (2002), in a recent article investigating the relationship between chronic ankle instability and functional performance, assert that no differences existed between the injured and normal subjects. Demeritt et al. supported this conclusion by presenting results of three lower extremity functional tests that showed no significant differences (p > 0.05) between 20 male subjects with chronic ankle instability and 20 healthy male subjects with no history of ankle injury. Their purpose was to compare the results of the co-contraction test, the shuttle run and the agility hop test, in order to determine whether by chronic ankle instability impaired functional performance. To sports medicine practitioners, the absence of significant differences between the two experimental groups suggests a lack of sensitivity and specificity of the three functional tests selected, rather than an absence of problems caused by diminished proprioception and neuromuscular control at the ankle.

During most weeks, one class day will be reserved for discussion of the assigned article. Your four-sentence rhetorical précis will be due the day of the planned discussion. The five (5) articles to be read during the term will be posted as PDF files on the Blackboard site for this course.
IX. SYSTEMATIC REVIEW OF LITERATURE RESEARCH PAPER: A systematic review of the existing evidence regarding an orthopedic sports medicine topic of your choosing is a requirement of this course. A minimum of 15 references is required, preferably with the majority published within the last 5 years.

NOTE: This paper should be written specifically for EXSS 530 – Evidence-Based Sports Medicine; research papers written previously for other courses are not acceptable.

A. FORMAT: The research paper should be written in Council of Science Editors (CSE) style using Index Medicus abbreviations for journal references. Please use the American Journal of Sports Medicine as your target journal; use their Guidelines for Authors, editorial format and style.

B. The link to access CSE style for citation formatting is: http://library.osu.edu/sites/guides/csegd.php

C. TOPICS: Choose an orthopedic sports medicine topic of personal interest that has drawn a significant level of research attention related to evidence-based practice. Be sure to select a topic that has been investigated in depth so that you’ll have a sufficient amount of literature to review. All approved topics will have some component of orthopedics associated with them: examples include:

- Prevention of upper or lower extremity orthopedic (musculoskeletal) injuries
- Orthopaedic clinical practices (examination, treatment procedures, etc.)
- Recent advances in diagnostic techniques and procedures
- Evaluations/comparisons of new or innovative modes of injury treatment
- New or different surgical techniques for a given injury/condition
- Comparisons of orthopedic surgery methods or clinical management

C. REQUIREMENTS AND IMPORTANT DATES:

- Your proposed topic and a brief (one-page) outline of the major sections of your research paper must be submitted on or before Wednesday, October xxth for review and approval. Once approved, topics may not be changed without instructor approval. (25 points)

- A typed reference list (minimum of 15 references) and an updated outline for your paper are due at the beginning of class on Friday, October xxth. (25 points)

- The final version of your revised research paper, submitted together with a copy of the graded initial draft, is due on Monday, December xth at the beginning of class. (100 points)
Week 1

Introductions and overview of course

**Lecture 1:** Evidence-based medicine (EBM): Key concepts and principles; Specificity and sensitivity

**Lecture 2:** Is it possible to prevent sports and recreation injuries? Ch. 1

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Week 2

**Lecture 3:** Does stretching help prevent injuries? Ch. 3

**Lecture 4:** What effect do core strength and stability have on injury prevention and recovery? Ch. 4

**Lecture 5:** Pelvic and hip joint injuries

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Week 3

**Seminar-format article discussion (Précis #1 due):**

**Lecture 6:** How do you treat chronic groin pain? Ch. 25

*Proposed topic and general outline due Wednesday, October xxth*

**Lecture 7:** How reliable is the physical examination in the diagnosis of sports-related knee injuries? Ch. 22

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Week 4

**Seminar-format article discussion (Précis #2 due):**

**Lecture 8:** What is the optimal treatment of acute anterior cruciate ligament injury? Ch. 23

**Lecture 9:** Sex differences in anterior cruciate ligament injury rates

*Reference list (minimum of 15 references) & revised outline due Friday, October xxth*
Week #5  | Lecture 10: Management of meniscal injuries and articular cartilage lesions  | MacAuley & Best text
---|---|---

Seminar-format article discussion (Précis #3 due):

Lecture 11: What is the most appropriate treatment for patellar tendinopathy?

Week #6  | MIDTERM EXAMINATION
---|---
Lecture 12: How should you treat a stress fracture?

Seminar-format article discussion (Précis #4 due):

Week #7  | Lecture 13: How evidence-based is our clinical examination of the ankle?
---|---
Lecture 14: What is the best treatment of subcutaneous rupture of the Achilles tendon?

Seminar-format article discussion (Precis #5 due):

Week #8  | Lecture 15: How evidence-based is our examination of the shoulder?
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Lecture 16: How effective are diagnostic tests for the assessment of rotator cuff disease?
Lecture 17: How should you treat an athlete with a first-time dislocation of the shoulder?
<table>
<thead>
<tr>
<th>WEEK</th>
<th>LECTURE TOPICS (M, W, F):</th>
<th>MacAuley &amp; Best text</th>
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<tr>
<td>Week #9</td>
<td><strong>Lecture 18:</strong> How should you treat tennis elbow? An updated scientific evidence-based approach</td>
<td>Ch. 21</td>
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<td>Student presentations of systematic review papers</td>
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<td><strong>Thanksgiving Vacation – Thursday and Friday, November xxth and xxth</strong></td>
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<td>Week #10</td>
<td>Student presentations of systematic review papers</td>
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<td><strong>Completed research papers due Monday, December xxth</strong></td>
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<td>Student presentations of systematic review papers</td>
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**Final Examination Date and Time = TBA**

RAH: revised 12/18/2008