California University of Pennsylvania
Guidelines for New Course Proposals
University Course Syllabus
Approved: 3/25/13

Department of Health Science

A. Protocol

Course Name:	Research Applications in Athletic Training
Course Number:	ATE 780
Credits:	3
Prerequisites:	Must be enrolled in the Graduate Athletic Training Program
Maximum Class Size:	25 traditional / NA online

B. Objectives of the Course

Upon completion of this course students will be able to:

1. Develop evidence base practice guidelines and discuss how guidelines are implemented and structured.
2. Critically review the research literature to determine the level of evidence that exists for a practice (including distinguishing between evidence-based practice, best practices, and areas with emerging research knowledge).
3. Translate research, identified in the literature as demonstrating effective treatment outcomes, into practice principles.
4. Appraise the importance of using evidence-based practices with patients in terms of treatment outcomes, political, legislative and legal issues.
5. Apply the skills needed to develop and revise personal practice models incorporating evidence from research and experience
6. Demonstrate the ability to utilize AMA writing style
7. Identify a problem or issue facing the profession of athletic training how current research can be used to address this issue
8. Synthesize the current literature in relation to the identified problem or issue and formulate a systematic review of the literature.
9. Formulate a plan to address this issue through additional research, educational efforts or other appropriate means.

C. Catalog Description

This course provides students with an understanding of research and it value in the profession of athletic training. Additionally this course will provide students with an understanding of evidence based practice as it relates to the practice of athletic training. Students will examine how practice guidelines are created from systematic reviews of

the literature and outcomes studies. The course will also provide students with an appreciation of the importance of evidence based practice in maximizing quality of patient care, seeking out and obtaining reimbursement, and enhancing clinical competence. Research will also be applied to non-patient care problems and issues facing the athletic training profession.

D. Outline of the Course

1. Introduction and course requirements
2. Evidence based practice – an overview
3. Locating clinical evidence
    a. Web based sources
    b. Peer reviewed publications
4. Evaluating the quality of clinical research
5. Research methods in evidence based practice
    a. Systematic reviews
    b. Meta-analyses
    c. Injury prevention studies
    d. Treatment outcomes
    e. Diagnostic testing
6. Using research to guide clinical practice
7. Case studies in evidence based practice
8. Identification of problems and issues facing Athletic Training
    a. Clinical issues
    b. Legal issues
    c. Administrative issues
9. Writing styles in athletic training
10. Publishing and presenting research

E. Teaching Methodology

This class will primarily utilize traditional in class teaching techniques including lectures, case studies, problem based learning, small group discussions and brainstorming sessions. Some course content will be delivered using electronic and online media.

F. Text

None. Research articles and web sites will be utilized in this course.

G. Assessment Activities

Class Participation	25%
Mid-Term Exam	25%
Cumulative Evidence Based Medicine Paper/Project	50%

H. Accommodations for Students with Disabilities

Accommodations for Students with Disabilities

Students with disabilities:

- Reserve the right to decide when to self-identify and when to request accommodations.
- Will register with the Office for Students with Disabilities (OSD) each semester to receive accommodations.
- Might be required to communicate with faculty for accommodations which specifically involve the faculty.
- Will present the OSD Accommodation Approval Notice to faculty when requesting accommodations that involve the faculty.

Requests for approval for reasonable accommodations should be directed to the Office for Students with Disabilities (OSD). Approved accommodations will be recorded on the OSD Accommodation Approval notice and provided to the student. Students are expected to adhere to OSD procedures for self-identifying, providing documentation and requesting accommodations in a timely manner.

Contact Information:

- Location: Azorsky Hall – Room 105
- Phone: (724) 938-5781
- Fax: (724) 938-4599
- Email: osdmail@calu.edu

Web Site: http://www.calu.edu/current-students/student-services/disability/index.htm

I. Supportive Instructional Materials, e.g. library materials, internet access, etc.

Beattie P, Nelson R. Clinical predictor rules: what are they and what do they tell us? *Australian Journal of Physiotherapy.* 2006; 52: 157-163.

Cochrane Manual: http://www.cochrane.org

Cordova ML, et al. Effects of ankle support on lower-extremity functional performance: a meta-analysis. *Med Sci Sports Exerc.* 2005; 37: 635-641.

Denegar CR, Fraser M. How useful are physical examination procedures? Understanding and applying likelihood ratios. *J Athl Train.* 2006; 41: 201-206.

Evans TA. Outcome measurement in athletic therapy: selecting the appropriate outcomes tool. *Athletic Therapy Today.* 2004; 9(6): 15-8.

Gray, J. A. M. (2001). *Evidence-based healthcare* (2 ed.). New York: Churchill Livingstone.

Grindstaff TL, Hamill RR, Tuzson A, Hertel J. Neuromuscular control training programs decrease non-contact ACL injury rates in female athletes: a numbers needed to treat analysis. *Journal of Athletic Training.* 2006; 41: 450-456.

Hankemeier D, Van Lunen B. Approved Clinical Instructors' Perspectives on Implementation Strategies in Evidence-Based Practice for Athletic Training Students. *Journal Of Athletic Training [serial online]*. November 2011;46(6):655-664.

Hubbard TJ, Denegar CR. Does Cryotherapy Improve Outcomes With Soft Tissue Injury? *J Athl Train.* 2004; 39: 278-279.

Hubbard TJ, Aronson SL, Denegar CR. Does Cryotherapy Hasten Return to Participation? A Systematic Review. *J Athl Train.* 2004; 39: 88-94.

JAMA. *AMA Manual of Style: A Guide for Authors and Editors*. 10th ed. New York, NY: Oxford University Press. 2009.

Jones MH, Amendola AS. Acute treatment of inversion ankle sprains: immobilization versus functional treatment. *Clin Orthop.* 2007; 455: 169-172.

Knowles SB, Marshall SW, Guskiewicz KM. Issues in estimating risks and rates in sports injury research. *J Athletic Training*. 2006; 41: 207-215.

Malanga GA, Andrus S, Nadler SF, McLean J. Physical examination of the knee: a review of the original test description and scientific validity of common orthopedic tests. *Arch Phys Med Rehabil.* 2003; 84: 592-603.

Manspeaker S, Van Lunen B. Overcoming Barriers to Implementation of Evidence-Based Practice Concepts in Athletic Training Education: Perceptions of Select Educators. *Journal Of Athletic Training[serial online]*. September 2011;46(5):514-522.

Mazerolle S, Ruiz R, Maresh C, et al. Evidence-Based Practice and the Recognition and Treatment of Exertional Heat Stroke, Part I: A Perspective From the Athletic Training Educator. *Journal Of Athletic Training [serial online]*. September 2011;46(5):523-532.

Montori VM, et al. Methodological issues in systematic reviews and meta-analyses. *Clin Orthop*. 2003; 413: 43-54.

Olmsted LC, Vela LI, Denegar CR, Hertel J. Prophylactic Ankle Taping and Bracing: A Numbers-Needed-to-Treat and Cost-Benefit Analysis. *J Athl Train.* 2004; 39: 95-100.

Oxford Centre for Evidence-Based Medicine: http://www.cebm.net/

Potteiger K, Brown C, Kahanov L. Altering the Athletic Training Curriculum: A Unique Perspective on Learning Over Time. *Athletic Training Education Journal [serial online]*. April 2012;7(2):60-69. Available from: SPORTDiscus with Full Text, Ipswich, MA.

Pedro: Physiotherapy Evidence Database:http://www.pedro.fhs.usyd.edu.au/index.html

Rhea MR. Determining the magnitude of treatment effects in strength training research through the use of the effect size. *J Strength Cond Res.* 2004; 18: 918-20.

Roberts, A. R., & Yeager, K. R. (Eds.). (2004). *Evidence-based practice manual: Research and outcome measures in health and human services.* New York: Oxford University Press.

Straus, S. E., Richardson, W. S., Glasziou, P., & Haynes, R. B. (2005). *Evidence-based medicine: How to practice and teach EBM* (3rd ed.). Edinburgh: Churchill Livingstone.

Steves R, Hootman JM. Evidence-Based Medicine: What Is It and How Does It Apply to Athletic Training? *J Athl Train.* 2004; 39: 83-87.

Schunemann HJ, Bone L. Evidence-based orthopaedics: a primer. *Clin Orthop*. 2003; 413: 117-132.

Thacker SB, Gilchrist J, Stroup DF, Kimsey CD. The impact of stretching on sports injury risk: a systematic review of the literature. *Med Sci Sports Exerc.* 2004; 36: 371-8.