

The University Of Toledo

Existing Graduate Course Modification Form

* denotes required fields

Contact Person*: Neal Glaviano Phone: 530-4501 (xxx - xxxx) Email:
neal.glaviano@utoledo.edu

Present

Supply all information asked for in this column.
(Supply core, research intensive and transfer module
info if applicable)

College*: College of Health and Human Service ▼

Dept/Academic Unit*:

School of Exercise and Rehabilitation Sciences ▼

Course Alpha/Numeric*: KINE -
6660

Course Title:

Evidence-Based Approach to Physical Rehabilitation

Credit hours: Fixed: 3 or Variable: to

CrossListings:

Insert

▲ To add a course,
type in course ID
and click the Insert
button.

▼ To remove a course,
select the course on
left and click the
Remove button.

Remove

Prerequisite(s)(if longer than 50 characters, please
place it in Catalog Description):

Corequisite(s)(if longer than 50 characters, please
place it in Catalog Description):

Proposed

Fill in appropriate blanks only where entry differs from
first column.

College: --Select a College-- ▼

Dept/Academic Unit: --Select a Department-- ▼

Course Alpha/Numeric: -
-

Course Title:

Evidence-Based Practice in Sports Medicine

Credit Hours: Fixed: 2 or Variable: to

CrossListings:

Insert

▲ To add a course,
type in course ID
and click the Insert
button.

▼ To remove a course,
select the course on
left and click the
Remove button.

Remove

Prerequisite(s)(if longer than 50 characters, please
place it in Catalog Description):

Corequisite(s)(if longer than 50 characters, please
place it in Catalog Description):

Catalog Description (*only if changed*) 75 words max:

Catalog Description (*only if changed*) 75 words max:

Catalog Description: An investigation into the science and theories of therapeutic rehabilitation and its impact of clinical practice using current literature and databases from areas of evidence based medicine.

This course will introduce the student to clinical epidemiology and the evaluation of the efficacy of prevention, diagnosis, and treatment strategies in athletic training and sports medicine.

Has course content changed?

Yes

No

If course content is changed, give a brief topical outline of the revised course below(less than 200 words)

Course content will be reduced to reflect the change in credit hours.

Proposed effective term*: (e.g. 201140 for 2011 Fall)

File Type	View File
Syllabus	View

List any course or courses to be deleted.

Effective Date:



Effective Date:



Comments/Notes:

Rationale:

The change in this course from 3 lecture credit hours to 2 lecture credit hours has been suggested to reflect the content and current delivery methods of the course. There will be a decrease in course requirements to reflect the change in credit hours of this course.

Approval:

Department Curriculum Authority:	Beth Ann Hatkevich	Date	2017/01/26
Department Chairperson:	Ruthie Kucharewski	Date	2017/01/27
College Curriculum Authority or Chair:	Eric Longsdorf	Date	2017/02/20
College Dean:	Barry W. Scheuermann	Date	2017/02/27
Graduate Council:	Constance schall, GC mtg 4/18/17	Date	2017/04/19
Dean of Graduate Studies:	Amanda C. Bryant-Friedrich	Date	2017/05/01
Office of the Provost :		Date	

print

Administrative Use Only

Effective Date:	<input type="text"/>	 (YYYY/MM/DD)
CIP Code:	<input type="text"/>	
Subsidy Taxonomy:	<input type="text"/>	
Program Code:	<input type="text"/>	
Instructional Level:	<input type="text"/>	

Registrar's Office Use Only

Processed in Banner on: 

Processed in Banner by:

Banner Subject Code:

Banner Course Number:

Banner Term Code:

Banner Course Title:



Evidence-Based Approach to Physical Rehabilitation

KINE 6660-002, CRN# 50046

University of Toledo

College of Health & Human Services

School of Exercise & Rehabilitation Sciences

Instructor: ATP Faculty

Email:

Office Location:

Office Hours:

Class Location:

Class Day/Time:

Credit Hours: 2

Offered:

Office Phone:

CATALOG/COURSE DESCRIPTION

This course will introduce the student to clinical epidemiology and the evaluation of the efficacy of prevention, diagnosis, and treatment strategies in athletic training and sports medicine.

COURSE STATEMENT

Evidence-based approach to physical rehabilitation provides essential information on the fundamental concepts related to emerging evidence within athletic training and sports medicine. This is an advanced athletic training course designed to enhance the student's ability to define evidenced based practice, evaluate and critically appraise current research, and enhance the athletic trainer's ability to implement current concepts on prevention, diagnosis and treatment into their current clinical practice.

PREREQUISITES AND COREQUISITES

Admission to the graduate athletic training program.

RECOMMENDED INSTRUCTIONAL MATERIALS

Relevant journal articles will be provided to the class

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, students will be able to:

Objective 1: Understand the statistical techniques used to assess the efficacy of clinical practice.

Objective 2: Demonstrate the ability to critically review clinical trials of prevention and treatment techniques and assessment of diagnostic tests.

Objective 3: Critically appraise a current research article and present your assessment to a group of professional peers.

UNIVERSITY POLICIES

Policy Statement on Non-Discrimination on the basis of Disability: The University of Toledo is an equal opportunity educational institution. Please read The University's Policy Statement on Nondiscrimination on the Basis of Disability- American's with Disability Act Compliance. The statement can be found at:

https://www.utoledo.edu/policies/administration/diversity/pdfs/3364_50_03_Nondiscrimination_o.pdf



Academic Accommodations: The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments to this course please contact the Student Disability Services Office (studentdisabilitysvs@utoledo.edu, 419-530-4981, Rocket Hall Room 1820). Students receiving accommodations are encouraged to discuss this with me after class or during my office hours, so that I may be better informed on how to assist you during the semester.

Statement of Diversity and Inclusion: In concert with the University of Toledo's values and expectations, the faculty of the School of Exercise and Rehabilitation Sciences upholds the ideas and goals pledged by the University to respect and value personal uniqueness and differences. Specifically, College faculty will foster an environment of inclusion in all their curricular and extra-curricular activities, work to challenge stereotypes, and to promote sensitivity toward diversity.

All students enrolled in this course will be expected to be considerate of the thoughts and ideas of others, promote a collaborative and supportive educational environment, and treat every individual with dignity and respect regardless of gender, race/ethnicity, religion, sexual orientation, impairment(s)/disability(ies), political views, and other element(s) of uniqueness.

SAFETY AND HEALTH SERVICES FOR UT STUDENTS

There are various safety and health services available to you. Visit the following link for more information:

<http://www.utoledo.edu/offices/provost/utc/docs/CampusHealthSafetyContacts.pdf>

ACADEMIC SUPPORT SERVICES

The University offers resources such as the Learning Enhancement Center and the Counseling Center to assist in your academic success.

Learning Enhancement Center: 419-530-2176, Carlson Library B0200

Counseling Center: <http://www.utoledo.edu/studentaffairs/counseling/new.html>; 419-530-2426, Rocket hall 1810

ACADEMIC POLICIES

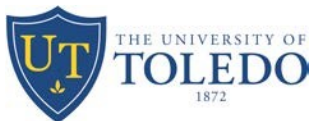
Academic Dishonesty: Academic dishonesty will not be tolerated in this course per University of Toledo's policy on academic dishonesty. The policy can be found at:

http://www.utoledo.edu/catalog/2000catalog/admissions/academic_dishonesty.html

University Add/Drop/Withdraw Policy: Students should refer to the University of Toledo Registrar's Office for more information and dates. <http://www.utoledo.edu/offices/registrar/registration.html>

Attendance: Students are expected to be present and on time to every class. The University's Missed Class Policy can be found at http://www.utoledo.edu/facsenate/missed_class_policy.html. Excused absences will be permitted for personal emergencies (illness), religious observances, participation in University-sponsored activities, or government-required activities (military service or jury duty). It is the student's responsibility to inform the instructor ahead of time about missing class (via e-mail, telephone, or in person). Exams cannot be made up except in the event of extreme emergency or hardship or if prior notification is given to the instructor. In the event of a medical excuse, the student will have to have medical documentation. In the event of a death of a family member, documentation from the funeral home will be required. Missed exams must be taken within one week. Make up work needs to be approved by the course instructor. If a student misses an exam or quiz and fails to inform the instructor prior to the exam, the student will receive a zero for that exam grade.

Students are responsible for all material covered in classes they miss, even if their absences are excused. Students must make arrangement with instructors to complete missed assignments, labs, examinations and other course requirements. In turn, instructors are not to penalize students with excused absences.



COURSE EXPECTATIONS

Professional Behavior:

Students are expected to demonstrate a professional appearance and attitude for all classes. Students are expected to conduct themselves as professionals and to demonstrate respect for the course instructor and peers by demonstrating behavior that is conducive to a positive learning environment. Students are expected to be on time to and present for each class session. Cell phone use (verbal conversations, texting, email, internet, etc.) is prohibited during class, unless approved by the instructor prior to the start of class. Laptops and other electronic devices may be used during class, but for only class related purposes. The personal device conduct policy is further described below. All assignments are to be completed and turned in on time. Late assignments will result in a reduced grade or a 0 as determined by the instructor's discretion.

Personal Electronic Device Policy

It is critical that all students are fully engaged in the course content during class. Use of personal electronic devices including cell phones and laptop computers during the course for non-academic reasons is strictly prohibited. Use of cell phones for any purpose is prohibited at all times. The only reason that a laptop is allowed to be used is to look at online course content such as readings or slides that have been posted on the course Blackboard site and are relevant to the current course activity. Any other use of your laptop, including but not limited to social networking sites, checking email, instant messaging, web browsing, and looking at materials for other courses, is strictly prohibited. If the instructor suspects that you are using your computer for purposes other than those allowed above, he/she will simply ask you what you are doing. If you have violated the Personal Electronic Device Policy, the following will occur: 1) you will be asked to leave class that day, and 2) the first offense will result in your semester grade being reduced one 1/2 letter grade (for example, from "A" to "A-". If a second offense occurs, your semester grade being reduced one full letter grades (for example, from "A" to "B".

Course Evaluation:

Final Examination	20%
Mid-term Examination	20%
Final Project Presentation	20%
Final Written Project	15%
Course Assignments/Participation in Class Discussion	15%
Participation in Lab Meetings	10%

Grades:

A	>93%	B-	82 – 80%	D+	69 – 68%
A-	92 – 90%	C+	79 – 78%	D	67 – 63%
B+	89 – 88%	C	77 – 73%	D-	62 – 60%
B	87 – 83%	C-	72 – 70%	F	<59%



Assignments/Readings:

Assignments will be distributed and due as indicated on the course schedule. Additional assignments may be assigned at the discretion of the instructor. It is the student's responsibility to come prepared and ready to actively participate in discussions covering the topics relative to both their assignments and reading to each class

Semester Project "Court Case":

You will work in small groups (2 students) to answer a clinically relevant research question (one that is heavily scrutinized to whether it works) using the methodology of either a systematic review or a meta-analysis. This group will go to trial (prosecution) with another group (defense) on charges that state the said treatment/modality etc. does not do what it is claimed. The defense group will present information to defend its use in clinical practice, while the prosecution will present evidence to show that its use should be terminated from clinical practice. The assignments due throughout the semester are part of the project and listed on the course schedule. Further information will be provided throughout the semester.



COURSE SCHEDULE

Week	Date	Weekly Topic	Reading/assignments Due Dates
1	8/22	What is Evidence-based Medicine	
	8/24	Asking Clinical Questions	Reading 1 <i>Establish members of your group</i>
2	8/29	Evaluating the Quality of Research	Readings 2, 3, 4, 5
	8/31	Effect Sizes and Confidence Intervals	
3	9/5	NO CLASS-LABOR DAY	
	9/7	Research Methods: Systematic Reviews	Readings 6, 7 <i>Identify general clinical topic</i>
4	9/12	Research Methods: Meta-Analysis	Readings 8, 9
	9/14	Student Project Development and Example Systematic Review	Reading 10 <i>Define specific research question</i>
5	9/19	Injury Prevention in Sports Medicine	Reading 11
	9/21	Musculoskeletal Injury Prevention I: Ankle Taping/Bracing	Readings 12, 13 <i>List of search terms and search engines to be searched</i>
6	9/26	Musculoskeletal Injury Prevention II: ACL Injury Prevention	Reading 14
	9/28	Musculoskeletal Injury Prevention III: Flexibility Training	Reading 15
7	10/3	NO CLASS – FALL BREAK	
	10/5	Research Methods: Evaluation of Treatment Outcomes	<i>Results of search using QUORUM flow chart</i>
8	10/10	Treatment Outcomes that should be measured	Readings 16, 17, 18 <i>Draft of data table with data from at least 3 articles entered</i>
	10/12	Mid-Term Examination	
9	10/17	Musculoskeletal Injury Treatment: Patellofemoral Pain	Reading 19 <i>Updated QUORUM flow chart & data table</i>
	10/19	Musculoskeletal Injury Treatment: RICE	Reading 20
10	10/24	Musculoskeletal Injury Treatment: Subacromial Impingement	Reading 21



Week	Date	Weekly Topic	Reading/assignments
	10/26	Research Methods: Diagnostic Testing in Sports Medicine	Reading 22
11	10/31	Musculoskeletal Injury Assessment: Knee	Readings 23, 24 <i>Complete data table and graphs of results discussed with instructor</i>
	11/2	Musculoskeletal Injury Assessment: Shoulder	Reading 25
12	11/7	Musculoskeletal Injury Assessment: Spine	Reading 26
	11/9	Clinical Decision Rules and Practice Guidelines	Reading 27 <i>Draft of full paper due at start of class</i>
13	11/14	Screening and prognosis: Mandatory ECG testing	Reading 28
	11/16	What's wrong with EBM?	Reading 29
14	11/21	Class will not meet but use time for presentation preparation	
	11/23	NO CLASS – THANKSGIVING DAY	
15	11/28	Review for Final Examination	
	11/30	Final Examination	
16	12/5	Court Case presentations	
	12/7	Court Case presentation	<i>Final draft of paper</i>

*** Syllabus Subject to Change***



Required Reading List

1. Pietrosimone BG, et al. A systematic review of prophylactic braces in the prevention of knee ligament injuries in collegiate football players. *J Athl Train.* 2008; 43(4):409-15.
2. Consort Statement: www.consort-statement.org
3. SORT: Strength of Recommendation Taxonomy. *Am Fam Phys.* 2006; 74: 17-18.
4. Oxford Centre for Evidence-Based Medicine Levels of Evidence: <http://www.cebm.net/>
5. PEDro: Physiotherapy Evidence Database: http://www.pedro.org.au/scale_item.html
6. PRISMA Statement
7. McKeon PO, Hertel J. Systematic review of postural control and lateral ankle instability, part II: is balance training clinically effective? *J Athl Train.* 2008; 43(3):305-15.
8. Israel H, Richter RR. A guide to understanding meta-analysis. *J Orthop Sports Phys Ther.* 2011; 41: 496-504.
9. Huggins R, Glaviano N, Negishi N, Casa DJ, Hertel J. Comparison of rectal and aural core body temperature thermometry in hyperthermic, exercising individuals: a meta-analysis. *J Athl Train.* 2012;47(3):329-38.
10. Cross KM, Kuenze C, Grindstaff T, Hertel J. Thoracic spine thrust manipulation improves pain, range of motion, and self-reported function in patients with mechanical neck pain: a systematic review. *J Orthop Sports Phys Ther.* 2011; 41 (9): 633-642.
11. STROBE statement.
12. McGuine TA, Hetzel S, Wilson J, Brooks A. The effect of lace-up ankle braces on injury rates in high school football players. *Am J Sports Med.* 2012; 40(1):49-57.
13. McGuine TA, Brooks A, Hetzel S. The effect of lace-up ankle braces on injury rates in high school basketball players. *Am J Sports Med.* 2011; 39(9):1840-8.
14. 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.
15. [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.
16. Parsons JT, et al. Change is hard: adopting a disablement model for athletic training. *J Athl Train.* 2008; 43(4):446-8.



17. Snyder AR, et al. Using disablement models and clinical outcomes assessment to enable evidence-based athletic training practice, part I: disablement models. *J Athl Train.* 2008; 43(4):428-36.
18. Valovich McLeod TC, et al. Using disablement models and clinical outcomes assessment to enable evidence-based athletic training practice, part II: clinical outcomes assessment. *J Athl Train.* 2008; 43(4):437-45.
19. Bolgla LA, Boling MC. An update for the conservative management of patellofemoral pain syndrome: a systematic review of the literature from 2000 to 2010. *Int J Sports Phys Ther.* 2011; 6(2):112-25.
20. van den Bekerom MP et al. What is the evidence for rest, ice, compression, and elevation therapy in the treatment of ankle sprains in adults? *J Athl Train.* 2012; 47(4):435-43.
21. Hanratty CE et al. The Effectiveness of Physiotherapy Exercises in Subacromial Impingement Syndrome: A Systematic Review and Meta-Analysis. *Semin Arthritis Rheum.* 2012 May 17. [Epub ahead of print]
22. STARD Initiative.
23. Hegedus EJ, Cook C, Hasselblad V, Goode A, McCrory DC. Physical examination tests for assessing a torn meniscus in the knee: a systematic review with meta-analysis. *J Orthop Sports Phys Ther.* 2007; 37(9):541-50.
24. Benjaminse A, Gokeler A, van der Schans CP. Clinical diagnosis of an anterior cruciate ligament rupture: a meta-analysis. *J Orthop Sports Phys Ther.* 2006; 36: 267-88.
25. Hegedus EJ et al. Physical examination tests of the shoulder: a systematic review with meta-analysis of individual tests. *Br J Sports Med.* 2008; 42(2):80-92
26. Cook C, Hegedus E. Diagnostic utility of clinical tests for spinal dysfunction. *Man Ther.* 2011; 16(1):21-5.
27. Fritz JM et al. Subgrouping patients with low back pain: evolution of a classification approach to physical therapy. *J Orthop Sports Phys Ther.* 2007; 37: 290-302.
28. O'Connor DP, Knoblauch MA. Electrocardiogram testing during athletic preparticipation physical examinations. *J Athl Train.* 2010; 45(3):265-72.
29. Smith GCS, Pell JP. Parachute use to prevent death and major trauma related to gravitational challenge: systematic review of randomised controlled trials. *Br Med J.* 2003; 327: 1459-1461.



Supplemental Readings

Bhandari M et al. Glossary of evidence-based orthopaedic terminology. *Clin Orthop*. 2003; 413: 158-163.

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

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

[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.

Herbert R. How to estimate treatment effects from reports of clinical trials. I: Continuous outcomes. *Aust J Physiother*. 2000; 46: 229-235.

Herbert RD. How to estimate treatment effects from reports of clinical trials. II: Dichotomous outcomes. *Aust J Physiother*. 2000; 46: 309-313.

Sauers EL, Snyder AR. A team approach: Demonstrating sport rehabilitation's effectiveness and enhancing patient care through clinical outcomes assessment. *J Sport Rehabil*. 2011; 20: 3-7.

Evans TA, Lam KC. Clinical outcomes assessment in sport rehabilitation. *J Sport Rehabil*. 2011; 20: 8-16.

Parsons JT, Snyder AR. Health-related quality of life as a primary clinical outcomes in sport rehabilitation. *J Sport Rehabil*. 2011; 20: 17-36.

Michener LA. Patient- and Clinician-rated outcome measures for clinical decision making in rehabilitation. *J Sport Rehabil*. 2011; 20: 37-46.

Newman D, Allison SC. Risk and physical therapy? *Journal of Orthopaedic and Sports Physical Therapy*. 2007; 37: 287-289.

[Fritz JM](#), [Wainner RS](#). Examining diagnostic tests: an evidence-based perspective. *Phys Ther*. 2001; 81: 1546-64.

Loong TW. Understanding sensitivity and specificity with the right side of the brain. *BMJ*. 2003;327:716-719.

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

Cochrane Handbook: www.cochrane-handbook.org

Karlsson J et al. ISAKOS Scientific Committee Research Methods Handbook – A practical guide to research: design, execution, and publication. *Arthroscopy*. 2011; 27 (4): S1-S112.