College of Public Health and Health Professions

Course Title: Evidence Based Practice I
College: Public Health and Health Professions
Department: Department of Physical Therapy, University of Florida

Course Number: PHT 6605
Course Website: Hosted on Sakai at https://lss.at.ufl.edu/
Course Semester and Year: 2013 Fall Semester (Year 1 in DPT Program)
Course Prerequisites: Course participation is limited to the entry-level DPT student in his/her first year of the program.
Credit Hours: 3
Clock Hours: 1, 3 hr lecture/discussion session per week
Course Location: Building – HPNP, Room – G103
Course Dates and Times: Wednesday, 8:30 – 11:20AM

Course Instructor: Steven Z. George PT, PhD
Course Instructor Office: HPNP, Room 1136
Course Instructor Email Address: szgeorge@phhp.ufl.edu
Course Instructor Phone Number: (352) 273-6432
Course Instructor Office Hours: By appointment

Teaching Assistants: Corey Simon and Roy Coronado
Teaching Assistants' Office: HPNP, Room 1159
Teaching Assistants' Email Address: coreysimon@phhp.ufl.edu; rcoronado@phhp.ufl.edu
Teaching Assistant Office Hours: Scheduled during semester and announced on Sakai

Course Description

The purpose of the evidence based practice sequence at the University of Florida is to provide the student with skills to become critical consumers of the rehabilitation literature. Evidence Based Practice I introduces topics related to research philosophy, critical thinking, sampling, research design, descriptive statistics, correlation, reliability, and validity. Evidence Based Practice I also introduces important concepts related to diagnosis, prognosis, and intervention practice patterns. The material presented in lecture will be accentuated with "real-world" examples from the literature and the course instructor's ongoing research. Student competence will be assessed by completion of class projects and written examination.

Course Objectives

After completing this course, the student will be competent in:

1. Describing different research philosophies.
2. Interpreting and/or creating research questions appropriate for descriptive and experimental designs.
3. Describing common sampling techniques used in rehabilitation research.
4. Calculating measures of central tendency and variance from sample data.
5. Describing signal to noise theory.
6. Interpreting statistical significance.
7. Interpreting correlation coefficients.
8. Describing the importance of reliability for tests and measures.
9. Discussing different components of validity.
10. Describing key components of critical thinking.
11. Interpreting a rehabilitation research article from a peer-reviewed journal.
12. Describing the philosophy of an evidence-based approach.

13. Describing different strategies of diagnosis.
14. Differentiating between sensitivity, specificity, and likelihood ratios.
15. Interpreting measures of diagnostic accuracy.
16. Calculating how results of a diagnostic test alter post-test odds.
17. Describing components of a prognosis.
18. Differentiating between odds ratios and relative risk ratios.
19. Calculating how a clinical finding alters prognosis.
20. Describing the general goals of intervention.
21. Interpreting estimates of magnitude for selected interventions.
22. Utilizing feedback from course instructor and teaching assistants in a timely fashion without defensiveness.

Teaching Methods and Learning Experiences
The course instructor will utilize all of the following techniques: lecture, focused readings, class discussion, individual projects, audience polling, and small group sessions (Socratic Method). Active student participation is vital for this class's success and it is expected in all components of the class.

Readings
The course instructor will assign required journal articles for lecture material.

The following textbook is required for the Evidence-Based Practice sequence:

- Jewell DV. Guide to Evidence-Based Physical Therapy Practice, 2nd Edition. (Jones and Bartlett, 2010)

The following textbook are available from the instructor as they contain source material for many of the lectures:

- SW Huck. Reading Statistics and Research, 4th edition. (Pearson, 2004)

- SE Straus, WS Richardson, P Glasziou, RB Haynes. Evidence-Based Medicine, 3rd edition. (Elsevier, 2005)

Students may find it beneficial to have access to a statistical reference book for some parts of the Evidence Based Practice sequence.

Journal Club Discussion Thread
Readings are an important part of the course, but there is often not enough class time to discuss them sufficiently. Therefore, several times (e.g. 4) during the semester a Discussion Thread will be posted on Sakai. This Discussion Thread will focus on an assigned reading and allow for student-to-student comments as a way to get a better understanding of the reading. This Thread will be monitored by the instructors and TA's, but they will not be expected to be active participants. Students will be required to post at least 3 comments total (i.e. not per thread) by the end of the semester to get full participation credit.

General Review and Office Hours
All TA's involved with this class have multiple years experience in EBP and are very familiar with the course content. They are also currently in the research phase of their PhD training so in order to accommodate their schedule they will provide structured times for general review sessions (larger groups led by Martina Spiess) and office hours (individual or smaller group help with Roy Coronado or Corey Simon). These schedules will be made available on Sakai. In addition to these opportunities Dr. George will lead a review session before each examination and is available for individual meetings by appointment.

Projects
Each project is to be completed individually, include the UF honor code, and student signature.

These are not group projects!

Project #1 – Involves the calculation and interpretation of measures of central tendency, variance, and correlation from a sample database using Excel software. Project #1 will be assigned sometime in September and will be due before class on September 26th.

Project #2 – Involves the interpretation of a diagnostic journal article and completion of a written assignment. Project #2 will be assigned on October 24th and will be due before class on October 31st.

Project #3 – Involves the interpretation of a prognostic journal article and completion of a written assignment. Project #3 will be assigned on November 7th and will be due before class on November 14th.

Project #4 – Involves the interpretation of an intervention journal article and completion of a written assignment. Project #4 will be assigned on November 28th and will be due before class on December 5th.

Critical Thinking
Critical thinking is a key component of Evidence-Based Practice; however, it is rarely explicitly addressed in courses. Therefore, "The Thinker's Guide to Clinical Reasoning" (The Foundation for Critical Thinking, 2010) will be issued to students to bring discussion of critical thinking to the forefront in this class. There will be critical thinking "break out" sessions interspersed during this class. Students are expected to actively participate by having their guide books handy and by providing their input. The goal of these sessions is to expose students to examples of critical thinking in preparation for future class discussion. This book may be used in other classes, so keep it handy during your 3 years here.

Course Outline

The course instructor can (and will) make changes to this schedule at his discretion. All changes will be announced during class or by email (to UF address) or on course website (if one is used).

Advanced preparation is recommended by 4 out of 5 DPT students who passed EBP I.

Date	*Topic*
August 21st	Introduction to EBP sequence, review of research philosophy *In class reading* Harris SR. Challenging myths in physical therapy. *Phys Ther* 2001;June;Editor's Note
August 28th	Special Friday Edition – 12:50PM to 3:50 PM (G301) Populations to samples – how they are obtained and described *Readings* Jewell DV, Chapters 4, 6, 7; 137-148 (1st ed: 145-156), and 9; 185-293 (1st ed: 197-206) Roach KE. A clinician's guide to specification and sampling. *J Othop Sports Phys Ther* 2001;31:753-758 Optional: Huck SW, Chapter 2 Critical thinking break-out: Introduction (pages 3 and 4) and two kinds of clinical questions (pages 32 and 33)
September 4th	Signal to noise and statistical significance

	Reading Sterne JAC and Smith GD. Sifting the evidence – what's wrong with significance tests? *BMJ*: 2001; 322:226-231 Cook C. Clinimetric corner: use of effect sizes in describing data. *J Man Manip Ther*. 2008:16:E54- E57. Jewell DV, Chapter 9; 210-213 (1st ed: 224-227)
September 11th	Research designs *Reading* Jewell DV, Chapter 5; 91-97 (1st ed: 97-104) Critical thinking break-out: Elements of clinical reasoning (pages 5 – 13)
September 18th	Correlation and reliability *Readings* Jewell DV, Chapters 7; 148-150 (1st ed: 156-160) and 9; 195-200 (1st ed: 208-213) Optional: Huck SW, Chapter 3 (pages 48-54 and 67-72) and Chapter 4
September 25h	Validity *Readings* Jewell DV, Chapters 7; 150-156 (1st ed: 160-167) Irrgang JJ et al. Development of a patient-reported measure of knee function. *J Bone and Joint Surg*. 1998;80(8):1132-1145 (focus on the reliability and validity parts). *Project #1 due* (will review in class, keep copy to study for test).
October 2nd	Test #1 (includes material from 1st 6 lectures)
October 9th	Introduction to an evidence based approach *Readings* Jewell DV, Chapters 1, 2, and 8; 159-163 (1st ed: 169-173)Sackett DL and Rosenberg WMC. The need for evidence-based medicine. *J R Soc Med* 1995; 88(11): 620-624 Glaros S. All evidence is not created equal: a discussion of levels of evidence. *PT Magazine* 2003;Oct:42-52 Optional: Strause SE et al, Introduction.
October 16th	Searching for literature and typical format of scientific article *Reading* Jewell DV, Chapter 3 Rothstein JL, Evidence or snake oil? *Phys Ther* 2000; September: Editor's Note (for in-class discussion). Optional: Huck SW, Chapter 1, Straus SE et al, Chapter 2 Critical thinking break-out: Analyzing logic of articles and research (pages 26 - 43)
October 23rd	Diagnosis #1 *Readings* Jewell DV, Chapter 10 Optional: Straus SE et al, Chapter 3 and Critical reasoning book (pages 14 – 24).
October 30th	Diagnosis #2 *Project #2 due.*

November 6th — Prognosis #1
Readings
Jewell DV, Chapter 11
Levangie PK. Application and interpretation of simple odds ratios in physical therapy-related research. *J Othop Sports Phys Ther* 2001;31:496-503.
Optional: Straus SE et al, Chapter 4

November 13th — Prognosis #2
Project #3 due.

November 20th — Intervention #1
Readings
Jewell DV, Chapter 12
Dalton GW and Keating JL. Number needed to treat: a statistic relevant for physical therapists. *Phys Ther* 2000;80:1214-1219.
Optional: Straus SE et al, Chapter 5 and

November 27th — Bye week (no class or time for review by student request)

December 4th — Intervention #2
Readings
Rothstein JL, Thirty years later… *Phys Ther* 2000;January;Editor's Note (for in-class discussion).
Critical thinking break-out: Final thoughts on reasoning (page 25, and 44 - 53)
Project #4 due and review for test (time permitting and student initiated)

Finals Week — Test #2 (comprehensive, as is life)

Grading
Grading is scored according to the grading policy; University of Florida, College of Health Professions, Department of Physical Therapy, Student Handbook. For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:
http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

The following scale is used:

Class Percentage	**93%-100%**	**90%-92%**	**87%-89%**	**83%-86%**	**80%-82%**	**77%-79%**	**73%-76%**	**70%-72%**	**67%-69%**	**63%-66%**	**60%-62%**	**Below 60%**
Letter Grade	A	A-	B+	B	B-	C	C	C	D	D	D	E

Assessment Methods
Multiple assessment methods are used to allow students multiple opportunities to display application of their knowledge in this class. Written tests incorporates multiple choice questions (including true/false), short answer responses, and interpretation of simple calculations. Projects incorporate written responses that emphasis critical analysis of a journal article and providing the rationale for the analysis. Projects also incorporate written justification of how data reported in the article may influence clinical application. A standard rubric is used for each project to ensure consistent assessment methods are used. In general, the assessments for this class are designed to closely match the previously listed course objectives.

Attendance and Professional Behavior
Attendance is required for all classes unless approved by the professionalism committee. Professional behavior is critical for a successful transition from the classroom to the clinical setting. The faculty recognizes the importance of this by incorporating the development and evaluation of professional behavior into each academic course. All students must attain developmentally appropriate levels of professionalism while in the University of Florida's Doctor of Physical Therapy Program. Professionalism will be determined by observation of behaviors in the classroom and lab. Additional feedback will be provided by peers, instructors, and teaching assistants.

Key professionalism areas emphasized in this class: responsibility, communication, and critical thinking.

Lecture dress is required for all class sessions, except tests.

Academic Integrity
Students are expected to act in accordance with the University of Florida policy on academic integrity (see Student Conduct Code, the Graduate Student Handbook or these web sites for more details:

http://www.dso.ufl.edu/sccr/honorcodes/conductcode.php

http://www.dso.ufl.edu/studenthandbook/studentrights.php

http://gradschool.ufl.edu/students/introduction.html

Cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

In this professional program we are particularly sensitive to students submitting independent work. All students are required to abide by the academic integrity guidelines and the following pledge has been accepted by the University and is expected of all students,

I understand that the University of Florida expects its students to be honest in all of their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action, up to and including expulsion from the University.

On all work submitted for credit by UF students, the following pledge is required or implied:

On my honor, I have neither given nor received unauthorized aid in doing this assignment.

In this class all students submitting a project or test are indicating they have neither given nor received unauthorized aid even if this statement is not included and signed.

Make-up Work
I expect you to attend and be prepared to participate in all class sessions. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis.

Accommodations for Students with Disabilities
If you require classroom accommodation because of a disability, you must first register with the Dean of Students Office (http://www.dso.ufl.edu/). The Dean of Students Office will provide documentation to you,

which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health
Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the UF Counseling & Wellness Center, 352-392-1575. Visit their web site for more information: http://www.counseling.ufl.edu/.

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: www.health.ufl.edu/shcc

Crisis intervention is always available 24/7 from: Alachua County Crisis Center: (352) 264-6789
http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance.