

**DOCTOR OF PHYSICAL THERAPY PROGRAM
FALL 2019**

COURSE: PHT6606 – RESEARCH METHODS IN PHYSICAL THERAPY

INSTRUCTOR: Matt S. Stock, Ph.D., FNSCA, CSCS,*D
Associate Professor
HPA 1- Room 258
Office 407-823-0364
Lab 407-823-0600
matt.stock@ucf.edu

OFFICE HOURS*: Mondays 1:00pm – 2:30pm
Wednesday Noon – 1:30pm
Fridays by Appointment

** Depending on the circumstances, office hours may be held at the Neuromuscular Plasticity Laboratory. Students are advised to contact the Instructor in advance.*

CREDIT HOURS: 2

CONTACT HOURS: 2

DAY & TIME: Monday, 2:30pm – 4:20pm

LOCATION: HPA1 – 250

TEXTBOOKS: Portney, L.G., Watkins, M.P. [Foundations of Clinical Research: Applications to Practice](#), 3rd Edition, 2015, F.A. Davis Company.

Vincent, W.J., Weir, J.P. [Statistics in Kinesiology](#), 4th Edition, 2012, Human Kinetics.

Hurley, W.L., Denegar, C.R., Hertel, J. [Research Methods: A Framework for Evidence-Based Clinical Practice](#), 1st Edition, 2010, Lippincott Williams & Wilkins,

Carter, R.E., Lubinsky, J. [Rehabilitation Research: Principles and Applications](#), 5th Edition, 2015, Saunders.

***Students will be responsible for all information in handouts / articles received / assigned during class.*

PREREQUISITE:

Current enrollment in the Doctor of Physical Therapy Program at the University of Central Florida.

COURSE DESCRIPTION:

This course is meant to serve as an introduction to physical therapy research. A variety of topics will be covered including types of research, development of a research question, the role of the IRB, research ethics, and

statistical analyses. At the conclusion of the course, students should feel comfortable with identifying, reading, and interpreting peer-reviewed literature.

TEACHING METHODS AND LEARNING EXPERIENCES

Teaching methods and learning experiences may include lecture, small group psychomotor skills with guided practice, demonstration, feedback, small and large group discussion, guided case studies, writing exercises, practical and written exams.

All lectures for this course will be provided in face-to-face format. Prior to each lecture, students will be provided with copies of the PowerPoint slides for the day; however, some information will be omitted from the slides. Students will be responsible for filling in the blanks.

ACADEMIC INTEGRITY:

Students should familiarize themselves with UCF's Rules of Conduct at <http://osc.sdes.ucf.edu/process.roc> According to Section 1, "Academic Misconduct," students are prohibited from engaging in:

- Unauthorized assistance: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course-related material also constitutes cheating.
- Communication to another through written, visual, electronic, or oral means: The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment, or project.
- Commercial Use of Academic Material: Selling of course material to another person, student, and/or uploading course material to a third-party vendor without authorization or without the express written permission of the university and the instructor. Course materials include but are not limited to class notes, Instructor's PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.
- Falsifying or misrepresenting the student's own academic work.
- Plagiarism: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
- Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
- Helping another violate academic behavior standards.

For more information about Academic Integrity, consult the International Center for Academic Integrity at <http://academicintegrity.org>

RESPONSES TO ACADEMIC DISHONESTY, PLAGIARISM, OR CHEATING

Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, The Golden Rule <http://goldenrule.sdes.ucf.edu/docs/goldenrule.pdf>. UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to academic misconduct. Penalties can include a failing grade in an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating academic dishonesty, where the final grade for this course will be preceded by the letter Z. For more information about the Z Designation, see <http://goldenrule.sdes.ucf.edu/zgrade>.

ATTENDANCE:

- Class attendance is **mandatory** for all DPT students. If an absence cannot be avoided, the student must inform the instructor of record of any class missed **in advance** via email. Students also must notify the course instructor of record for any reasons in which a class period was missed unexpectedly.
- Communication of unexpected absences should be provided to the course instructor of record as soon as

possible, and preferably via email, if appropriate. *Communication of an absence does not excuse the absence.*

- The student must consult/meet with the course instructor of record immediately upon their return. The student is responsible for any missed content or make-up assignments upon their return.
- Students are expected to be prompt and on time for classroom and laboratory experiences. If a student is late for class, he or she must enter through the rear entrance to the room, if possible.
- Excessive absences or tardiness in a semester will be considered a *matter of unacceptable professional conduct* and the student may be referred to the Program Retention and Advancement Committee or Professional Conduct Committee for investigation and recommendations, as appropriate.
- *Each faculty member has the option of reducing a student's course grade for repeated absences or tardiness as outlined in course syllabi. The total deduction for tardiness and absences will not exceed 10% of the final grade.*
- Students are responsible for reporting extended health, family, or other unforeseen conflicts that may impact attendance to the Program Director.

PROFESSIONALISM

The professional development of a healthcare practitioner is of utmost importance to the Doctor of Physical Therapy Program. Professional Conduct, or Professionalism, encompasses areas of behavior and qualities that are expected of physical therapy students in the school setting and in the student clinical experiences.

Attendance, timeliness, and attire are all reflections of professionalism. When professionalism is assessed, instructors will also consider each student's conduct in their class, the quality of interaction and participation, and the contribution to class discussion as related to preparedness. Students who do not conduct themselves in a professional manner may be brought before the Professional Standards Committee for further inquiry and possible action. The faculty and/or Professional Standards Committee may recommend remedial actions, probation, or program dismissal.

Some of the criteria by which a student's professional demeanor is measured are as follows:

- Adherence to the rules and regulations as stipulated by the University of Central Florida and the Doctor of Physical Therapy Program.
- Attendance / Tardiness
- Being respectful and courteous to fellow students and to other professional and non-professional personnel. Respect to those presenting or speaking is expected.
 - Guest Speakers / Presentations: The DPT Program often utilizes guest speakers from the community. Students in the program must demonstrate professional conduct, respect, and appreciation for these professionals' donation of their time to further their education. Professional attire and conduct are required when guest speakers are present.
- Recognizing personal or professional limitations and requesting assistance when necessary.
- Class Participation: Asking questions at appropriate times to expand knowledge of the material. Pertinent student-to-student interaction is considered a valuable part of the learning environment and appropriate articulation of critical-thinking during class time will be viewed as efforts toward developing professional judgment.
- Inappropriate use of cellular phones, electronic devices, etc. in class and clinical settings:
 - **Use of electronic devices during class for non-class-related activities is prohibited. Violations of this will result in the student referral to the Professional Standards Committee for review and action.**
- Appropriate non-distracting behavior while on campus, in hallways and in classrooms.
- Demonstrating honesty and veracity.
- Expressing or exhibiting interests in his/her profession.
- Accepting constructive criticism offered by instructors and others in an appropriate manner.
- Complying with the American Physical Therapy Association's (APTA) Code of Ethics (for a more detailed overview of APTA Code of Ethics please refer to the APTA's web site at www.apta.org).

- Complying with the APTA Professionalism Core Values of (for a more detailed overview of APTA Core Values please refer to the APTA's web site at www.apta.org):
 - Accountability
 - Altruism
 - Excellence
 - Integrity
 - Professional Duty
 - Social Responsibility

Classroom Etiquette

The following basic etiquette should be followed by all DPT students while in class:

- Be on time and prepared to start class. Have notebook/laptop out and ready to take notes. Plan to stay for the entire class period (or until dismissed).
- Sit properly. Your posturing is a reflection of your professional respect for and interest in the speaker.
- Do not put your feet on the desk or chairs. Taking care of the equipment in the classroom is essential.
- Put your phone on SILENT not vibrate. The buzzing is distracting to the speaker and other learners in the classroom.
- Keep side conversations out of the classroom. It is a sign of disrespect and distracting to the speaker and other students trying to hear and learn.
- Faculty have different policies regarding the use of laptop and tablet computers in the classroom. If laptop and tablet computers are permitted, use them for (quiet) note taking only, not for accessing the Internet, group chats, checking e-mail messages, personal tasks, etc.
- Place your belongings under your desk and away from walkways. During lab courses, place your belongings in the locker room and/or at the rear/front of the classroom.
- Do not eat during class. See Food and drink expectations.
- Dress appropriately. No hats in class. See Appropriate Attire.

ACADEMIC AND/OR DISCIPLINARY ACTION (DPT PROGRAM):

Students that exhibit poor performance involving safety, professional behavior, responsible behavior, ethical practice, or legal practice as described in the DPT Student Handbook, or cheating or plagiarism on exams, quizzes, or homework assignments are subject to the following with the decision of the professor: (1) loss of credit on project, assignment or examination, (2) removal from the course, (3) disciplinary/behavioral action plan, and/or (4) a lower grade. Any student involved in these behaviors may be referred to the Program Director, Department Head, or the Dean for further disciplinary action.

DRESS CODE:

For lecture courses:

Students must dress in professional attire for all lecture-based courses. Appropriate attire can include:

- Males: dress pants, khakis, UCF polo or collared shirt (tie optional), and dress or casual shoes.
- Females: professional skirts or dress, dress pants, khakis, UCF polo or collared shirt, and dress or casual shoes.

ALL Occasions: no excessively worn tennis shoes, ripped clothing, open-toe sandals, caps, or hats.

At no time should a student's mid-section be visible during a presentation or with a guest lecturer unless it is required for examination purposes.

For clinical lab courses:

Students will wear appropriate lab attire regardless of activities. Please do not ask instructor if it is necessary to wear lab clothes on a given day. If there are any questions regarding proper lab attire please contact the instructor. Appropriate lab attire is considered as follows:

- Females: Elastic-waist shorts (no blue jeans or cut-offs with loose fitting pant legs, no tight-fitting yoga style pants/leggings/spandex), short sleeve or t-shirt, sports bra, halter top, or a bathing suit top, which allows complete exposure of the back, and closed-toed tennis shoes.
- Males: Elastic-waist shorts with internal lining (no blue jeans or cut-offs with loose fitting legs), short sleeve shirt or t-shirt, and closed-toed tennis shoes.
- Nametags should be worn to all practical examinations.

RELIGIOUS OBSERVANCE:

Students must notify their instructor in advance if they intend to miss class for a religious observance. For more information, see the UCF policy at

<http://regulations.ucf.edu/chapter5/documents/5.020ReligiousObservancesFINALOct17.pdf>.

ACCESSIBILITY STATEMENT:

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need disability-related access in this course should contact the professor as soon as possible. Students should also connect with Student Accessibility Services (SAS) <http://sas.sdes.ucf.edu/> (Ferrell Commons 185, sas@ucf.edu, phone 407-823-2371). Through Student Accessibility Services, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential access and accommodations that might be reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student.

MEDIA POLICY:

Students may not make any recordings (audio or video) or take photographs during class without written permission of the instructor(s). No information should ever be posted to social media websites regarding course content at any time without express written permission from the instructor and/or others depicted. Students are not allowed to sell notes or media (digital or otherwise) of class lectures. Students may not use the printed or on-line material from class lectures for personal use without written permission of the instructor. *The use of laptop computers, cellular phones and other electronic devices will only be permitted when deemed allowable by the Instructor.* Should these devices be brought into the classroom, they must remain in silent mode and kept out of view with the student's personal belongings. If a student has a need to use these devices while a lecture or laboratory session is being conducted, he/she should notify the course instructor in advance and do so outside the classroom.

MAKE-UP ASSIGNMENTS FOR AUTHORIZED UNIVERSITY EVENTS OR CO-CURRICULAR ACTIVITIES

Students who represent the university in an authorized event or activity (for example, student-athletes) and who are unable to meet a course deadline due to a conflict with that event must provide the instructor with documentation in advance to arrange a make-up. No penalty will be applied. For more information, see the UCF policy at <http://policies.ucf.edu/documents/4-401.1MakeupAssignmentsForAuthorizedUniversityEventsOrCocurricularActivities.pdf>

DEPLOYED ACTIVE DUTY MILITARY STUDENTS

Students who are deployed active duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

CAMPUS SAFETY:

Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. Students should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.

- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Please make a note of the guide's physical location and consider reviewing the online version at http://emergency.ucf.edu/emergency_guide.html.
- Familiarize yourself with evacuation routes from each of your classrooms and have a plan for finding safety in case of an emergency. (Insert class-specific details if appropriate)
- If there is a medical emergency during class, we may need to access a first aid kit or AED (Automated External Defibrillator). To learn where those items are located in this building, see <http://www.ehs.ucf.edu/AEDlocations-UCF> (click on link from menu on left). (insert class specific information if appropriate)
- To stay informed about emergency situations, sign up to receive UCF text alerts by going to my.ucf.edu and logging in. Click on "Student Self Service" located on the left side of the screen in the tool bar, scroll down to the blue "Personal Information" heading on your Student Center screen, click on "UCF Alert", fill out the information, including your e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- If you have a special need related to emergency situations, please speak with me during office hours.
- Consider viewing this video (<https://youtu.be/NIKYajEx4pk>) about how to manage an active shooter situation on campus or elsewhere.

COMMUNICATION

In this class our official mode of communication is through email **unless otherwise designated by course instructor**. All communication between student and instructor and between student and student should be respectful and professional. As of 2009, Knightmail is the only official student email at UCF. Class rosters list Knightmail addresses rather than external email addresses, and all official class communications will be sent only to the Knightmail addresses. Students are responsible for checking their Knightmail accounts regularly.

COURSE EVALUATION:

Determination of grades for this course is as delineated below:

Grade Distribution

≥ 94.00%	A
89.00-93.99%	A-
85.00-88.99 %	B+
80.00-84.99 %	B
75.00-79.99%	B-
69.00-74.99%	C+
64.00-68.99%	C
60.00-63.99%	D
59 % and below	F

Assessments

Information and details pertaining to all assignments may be downloaded from Webcourses.

• Exam	30 pts
• Literature Review w/ Video	25 pts
• Quizzes (x 3)	20 pts
• Presentation	10 pts
• Proposal Idea Paper	5 pts
• Interview with a researcher	5 pts
• Webcourses Discussion Posts (x3)	3 pts
• <u>CITI training</u>	2 pts
	100 pts.

TERMINAL COURSE OBJECTIVES:

Upon conclusion of this course, students will demonstrate knowledge of the following competency areas:

I. Description of UCF DPT Research Curriculum

1. Introduction to the UCF DPT Research Capstone Manual.
2. Discussion concerning research goals of the UCF DPT program.
3. Understand the expectations of students, faculty, and research collaborators in the Capstone process.
4. Discuss the traditional research timeline, as well as goals and expectations of each benchmark.

II. Ethics in Physical Therapy Research

1. Discussion of the history of research ethics and why ethical behavior is a key prerequisite for performing human subjects research.
2. Discussion about research misconduct, including topics such as plagiarism, data manipulation, improper authorship, and inappropriate practices during data collection.
3. Discuss conflicts of interest in research and how to remove bias from the scientific thought process.
4. Describe the major governing entities that oversee research processes and create policies and procedures for researchers and students at UCF.
5. Introduction to the UCF Institutional Review Board, as well as the processes associated with submitting a study under the guidance of a UCF DPT faculty member.
6. Provide examples of what constitutes excellent ethical behaviors for doctoral students engaged in UCF research.

III. Research Concepts

1. Discussion of various types of research design, including prospective and retrospective analyses, as well as what constitutes good versus bad study attributes.
2. Describe common research terminology.
3. Compare and contrast internal versus external validity, as well as other types of validity.
4. Describe the concept of test-retest reliability and how reliability statistics can be useful in clinical practice.
5. Describe the concepts of null hypothesis significance testing, a priori power analyses, and effect size statistics.

IV. Types of Research Articles

1. Discuss differences between peer-reviewed and non-peer-reviewed sources of information.
2. Discuss the peer review process with an emphasis on understanding the key roles that journal editors and reviewers play.
3. Understand the steps needed to identify, access, and comprehend peer-reviewed research.
4. Compare and contrast different types of research studies, as well as differences among review articles.

V. Statistical Procedures and Software

1. Discuss why objective statistical procedures are important and frequently used in physical therapy and rehabilitation research.
2. Understand introductory statistical procedures that are commonly used in physical therapy and rehabilitation research.
3. Understand how to access statistical software as a UCF student.
4. Perform basic statistical tests in SPSS and JASP software.
5. Be able to interpret result outputs from common statistical software.

VI. Literature Review

1. Understand the basic steps involved in conducting a research literature review.
2. Understand why keeping up to date on relevant literature is important for identifying key gaps in the literature.

3. Discuss the reasons why it is particularly important for clinicians to be familiar with literature reviews and different types of research summaries.
4. Consider what to include in a reference list (i.e., what needs citing and what does not).

VII. Dissemination of Research Findings

1. Articulate the mechanisms by which researchers and clinicians can share their research findings with others.
2. Become comfortable sharing research in a podium presentation-style format.
3. Recognize the activities that typically occur at conferences and why attendance at state, regional, and national meetings is so important for professional growth and development.
4. Discuss the importance of data sharing and public speaking.

Course Schedule*

Date	Course Topic	Reading	Assignment Due**
<i>August 26</i>	Course Introduction; Overview of the UCF Research Capstone Process	N/A	N/A
<i>September 2</i>	<i>No Class – Labor Day</i>		
<i>September 9</i>	Ethical Issues in Clinical Research (with example scenarios); The IRB UCF IRB Investigator Manual	P&W Chapter 1-3	Webcourses Discussion Post #1
<i>September 16</i>	IRB Manual Quiz (#1); Searching the Literature	P&W Chapter 31	N/A
<i>September 23</i>	Using EndNote	N/A	CITI training
<i>September 30</i>	Types of Research; Research Concepts	P&W Chapters 8-13	N/A
<i>October 7</i>	Systematic Reviews and Meta Analyses	P&W Chapter 16	N/A
<i>October 14</i>	Introduction to Statistical Concepts	N/A	Webcourses Discussion Post #2
<i>October 21</i>	Quiz #2; Validity and Test-Retest Reliability	Weir (2005); P&W Chapters 4-6	N/A
<i>October 28</i>	Test-Retest Reliability Laboratory	Weir (2005); P&W Chapters 4-6	Interview with a researcher
<i>November 4</i>	Introduction to SPSS; Descriptive Statistics	N/A	Webcourses Discussion Post #3
<i>November 11</i>	<i>No Class – Veteran’s Day</i>		
<i>November 18</i>	Quiz #3; Performing an <i>a priori</i> power analysis in G*Power	Beck (2013)	N/A
<i>November 25</i>	Course Examination	N/A	Proposal Idea Paper
<i>December 2</i>	Physical Therapy Literature Review Presentations		
<i>December 9</i>	Physical Therapy Literature Review Presentations; Website Content Due		

*Subject to revision

** All assignments are due by 6:00pm on the date shown