

**The University of Texas at El Paso
College of Health Sciences
Doctor of Physical Therapy Program**

PT 5216

RESEARCH METHODS

SUMMER 2022

COURSE SYLLABUS

Credit Hours: **2**

Contact Hours: **30 hours** - Lecture: 30 hours; Lab: 0 hours; Clinic: 0 hours

Schedule: Class will typically be held at 1:00-2:30pm but days vary. See detailed schedule (found further down in this syllabus) and as indicated on Blackboard. Class will be held in Campbell Room 115. Note that classes for this course begin in Week 3 of this semester.

Instructors:

Faculty: Celia Pechak, PT, PhD, MPH (she/her/*ella*) – please call me Dr. P or Dr. Pechak (pronounced ‘paycheck’)
Office: Campbell Building Room 311
Office Phone #: 915-747-7289
Cell Phone #: 915-227-6636 – for URGENT use only
E-mail: cmpechak@utep.edu - Besides in-person communication, this is my preferred method of communication. I am generally very good about responding to emails in a timely manner during the workweek. However, if you do not get a response within 24 hours on Monday-Friday, feel free to email again in case I missed your email. While you are welcome to send emails after 4pm on Friday or over the weekend, I will most likely respond on Monday. Out of a need for some work-life balance, I generally do not check emails over the weekend.

Student hours: Please email me to set-up an in-person or Zoom meeting – I am happy to meet to help you succeed in my course! Additionally, I will schedule optional group review sessions.

Teaching Assistant: Kiersten Garrand, PT, DPT - kigarrand@utep.edu

Note: Dr. Garrand will be grading your mini-research manuscript. You should reach out to her with questions about preparing your manuscript. If you disagree with Dr. Garrand’s grading, please discuss with Dr. Garrand first, and then contact me if not resolved. All other questions regarding course matters should be directed to me.

Tutoring & Peer Mentorship: Maryam Buazza (mbuazza@miners.utep.edu) and Kelli Kirkpatrick (kkirkpatric@miners.utep.edu) (Class of 2024 students) are available for tutoring and peer mentorship. Watch for emails from

5/2/2022

them regarding scheduled weekly tutoring hours and peer mentorship activities, or contact them directly if you need tutoring or guidance from successful DPT students who are motivated to help you succeed.

Course Description: Basic research methods, measurement protocols, and applied statistics, for the purpose of critiquing scientific literature are introduced. Research design (experimental and non-experimental) and common statistical tests (parametric and nonparametric) are reviewed. The course emphasis is on the critique and application of research literature.

Course Prerequisites for DPT Students: The UTEP DPT Program curriculum is a lock-step curriculum. Therefore, students must pass all courses in the prior semester of the DPT Program in order to enroll in courses in the subsequent semester. Faculty may consider exceptions for PT 6116 PT Capstone Project I and PT 6117 PT Capstone Project II.

Course Objectives: Upon successful completion of this course, the student will be able to:

1. Explain the relevance of research to clinical practice. (7B Evidence-based practice; 7D11) [Comprehension]
2. Identify the responsibilities of researchers and institutional review boards to ensure ethical research practice, and appropriate actions if unethical research practices are observed. (7B Evidence-based practice; 7D6) [Comprehension]
3. Use appropriate search engines and databases to access peer-reviewed scientific literature. (7B Evidence-based practice; 7D9; 7D11) [Application]
4. Differentiate between quantitative and qualitative research paradigms. (7B Evidence-based practice; 7D9; 7D11) [Analysis]
5. Differentiate between various research designs. (7B Evidence-based practice; 7D9; 7D11) [Analysis]
6. Identify how research designs and methods control for bias. (7B Evidence-based practice; 7D9; 7D11) [Comprehension]
7. Appraise peer-reviewed scientific literature. (7B Evidence-based practice and applied statistics; 7D9; 7D11) [Evaluation]
8. Interpret results of various parametric and nonparametric statistical tests. (7B Evidence-based practice and applied statistics; 7D9; 7D11) [Application]
9. Create a mini-research manuscript. (7B Evidence-based practice; 7D9; 7D11) [Synthesis]

Methods of Instruction: Primarily active-learning activities, including: analysis of research articles, small & large group discussions, writing assignments, & participation in a simulated research project as participant and researcher

Methods of Evaluation: Student competence and attainment of course objectives are assessed using a variety of methods. These methods and their contribution to the final grade are listed in the table below. More details regarding assignments and assessments are found at the end of this syllabus after the Course Schedule.

<u>Item</u>	<u>Grade Composition</u>
IRB Training Completion	1%
Holocaust Museum Visit & Written Reflection	2%
Mini-Research Manuscript (Team grade)	7%
Written Exam 1*	20%
Written Exam 2*	25%
Oral Demonstration of Research Knowledge (aka 'Oral Defense')	10%
Final Exam*	35%
Total	100%

If you get a grade below an 80% on any exam or assignment worth 5% or more of the course grade, you are required to arrange a meeting with me and work out study strategies to improve your performance.

***All written exams will be administered in person and will require you to use your own laptop and Respondus Lockdown Browser.** Bring your fully-charged laptop with the most current version of Respondus Lockdown Browser downloaded on it. If you are not familiar with this software, see https://www.utep.edu/technologysupport/Files/docs/MM_Respondus-Student.pdf and/or contact the HELP Desk at 915-747-4357 (HELP). Also, you may see the video at the following link to learn more about the software: <https://vimeo.com/456232383>

Grading Scale: The following letter grade scale is used for the UTEP Doctor of Physical Therapy Program:

<u>Letter Grade Scale</u>	<u>Numerical Grade Scale</u>
A	90-100
B	80-89
C	75-79
F	Below 75

Required Textbooks and Other Learning Resources:

- 1) UTEP Librarian for the College of Health Sciences
Angela Lucero
ajmartinez5@utep.edu
Phone: 915-747-5685
Office: Library 214

- 2) Jewell DV. *Guide to Evidence-Based Physical Therapist Practice*. 4th ed. Burlington, MA: Jones & Bartlett Learning; 2018. ISBN-13: 978-1-284-10432-5

- 3) American Medical Association. *AMA Manual of Style: A Guide for Authors and Editors*. 11th ed. New York City, NY: Oxford University Press; 2020.
 - Available for free to UTEP students through UTEP Library
 - Go to <https://libguides.utep.edu/pt>
 - *You will use AMA for ALL formal writing assignments while in the DPT Program*
- 4) See Blackboard for further required readings; students will need to access these readings through the American Physical Therapy Association (APTA) website and/or UTEP Library.
- 5) To understand what a systematic review is, see “What is a Systematic Review?” at <http://libguides.utep.edu/ptsr>
- 6) To learn how to write a PICO question, see “Preparing for a SR” at <http://libguides.utep.edu/ptsr>
- 7) To learn how to find evidence to answer your PICO question, see “Find the Evidence” at <http://libguides.utep.edu/ptsr>
- 8) To learn how to appraise an article, see “Appraise/Analyze” at <http://libguides.utep.edu/ptsr>

Supplemental Textbooks and Other Learning Resources:

- 1) Gough D, Oliver S, Thomas J. *An Introduction to Systematic Reviews*. London: SAGE Publications; 2012. ISBN-13: 978-1473929432
 - Available for FREE check-out in the DPT Program’s Administrative Assistant’s office
- 2) For information about properly writing research manuscripts, see
 - https://owl.purdue.edu/owl/research_and_citation/using_research/quoting_paraphrasing_and_summarizing/index.html

Resources Available for Student Success:

Confidential Resources:

- **Center for Accommodations and Support Services (CASS):** If you have or suspect a disability and need accommodations, you should contact the Center for Accommodations and Support Services (CASS) at 747-5148. You can also e-mail the office at cass@utep.edu or go by their office in Union Building East, room 106 (next to the UTEP post-office). For additional information, visit the CASS website at <http://sa.utep.edu/cass>.
- **The UTEP Student Health Center:** Union East Suite 100; 915.747.5624; www.utep.edu/chs/shc
- **The UTEP Counseling and Psychological Services:** 202 Union West, 915.747.5302; www.utep.edu/student-affairs/counsel

Additional Resources:

- Division of Student Affairs. 915.747.5076 www.utep.edu/student-affairs
- DPT Library Research Guide: <http://libguides.utep.edu/pt>
- Writing Center: 915.747.5112 <https://www.utep.edu/uwc/>
- Computer Labs: Independent Learning Center (ILC), 1st floor Campbell Building
- Military Student Success Center: 915.747.5342, www.utep.edu/student-affairs/mssc
- Student Wellness Program. 915.747.6738, www.utep.edu/chs/wellness

University Policies: All students are responsible for following UTEP policies and procedures found in the Handbook of Operating Procedures at www.utep.edu/vpba/hoop

Program Policies: All DPT students are responsible for following all policies and procedures documented in the current DPT Student Handbook. Course policies found in the DPT Student Handbook apply to all courses in the DPT curriculum. The current DPT Student Handbook may be found on the DPT Student Resources site on Blackboard.

Academic Integrity: The UTEP DPT Program has a “zero tolerance policy” for scholastic dishonesty. DPT students must demonstrate academic integrity at all times. The current DPT Student Handbook outlines specific definitions, expectations, details, and consequences related to academic integrity and scholastic dishonesty. Additional information related to academic integrity is available through the UTEP Division of Student Affairs at www.utep.edu/student-affairs/osccr/student-conduct/academic-integrity.html

Course-Specific Policies: See DPT Program Handbook for all policies on exams, electronic device use, dress code, attendance, and scholastic dishonesty. Your instructors encourage you to periodically review all handbook policies, but in light of past experiences, particularly direct you to review the policies on cheating, accumulated knowledge, professional behaviors/generic abilities, attendance, and the disclaimer that the syllabus is subject to change.

1. **Attendance Policy - Absences:** Refer to current DPT Student Handbook “Attendance and Classroom Behavior” for the DPT Program policy. Additional course-specific policy are as follows:
 - As all Program faculty do, I believe that you should demonstrate your commitment to the profession and respect for faculty, guest speakers, and colleagues by attending all classes, arriving to class on time, and being fully prepared to engage in class. I have high expectations because I am preparing you to demonstrate this professional behavior during your clinical education courses and when working as a licensed physical therapist.
 - **However, if you are experiencing personal challenges interfering with meeting my attendance expectations and you wish to share this information with me, please contact me to discuss what assistance may be available to you. If you are not comfortable speaking with me, then please reach out to your assigned Advisor or to Dr. Gurovich.**
 - However, congruent with one’s ability to request excused time off in the work setting, I permit ONE excused absence of a single class* period per course per semester for any reason. In order for your first absence to be excused, you must meet the expectation described further down. HOWEVER, except for very rare exception [eg, documented serious illness or emergency] that will be considered on a case-by-case basis, there will be NO accommodations offered for missed class time. Specifically, I will NOT offer the opportunity to make up written examinations, either in advance or after the scheduled class, or provide individual tutoring for missed content. Additionally, late work caused by your absence will not be accepted. You should make prior arrangements with a classmate to find out what you missed, turn in any work, and/or pick up any hand-outs. (*NOTE: Single class is defined as 1.5 hours).

- In order to be excused for your first missed class or lab, you must do the following: Email me at cmpechak@utep.edu at least 2 hours in advance if you will not be attending class. I do not require you to give me a reason, but I expect notice in WRITING by email. A phone call from you or message from one of your classmates is not acceptable.
 - If you miss a second (or more) class for any reason, it will be considered unexcused unless it is due to documented illness or emergency. In these cases, you should email me and then arrange a meeting with me upon your return to school to discuss why you missed class. Documentation will be required for any additional absence (eg, doctor's note documenting illness or treatment). I will notify you after our meeting and review of your documentation whether or not the absence will be considered excused or unexcused.
 - Missing 50% or more of a class will be considered an absence.
 - For each incident of an unexcused absence, 5% will be deducted from your final semester grade.
2. **Attendance Policy - Tardiness & Early Departures:** Refer to current DPT Student Handbook "Attendance and Classroom Behavior" for DPT Program policy. Additional course-specific policy is as follows:
- I use the clock on the computer to determine when class should start and end. If you expect to arrive late or leave early (eg, doctor's appointment), you should notify me in writing by email in at least 2 hours in advance. If you are consistently late &/or leaving early for any reasons, I will contact you to meet with me to discuss the problem in person or by email. Each subsequent incidence of tardiness &/or early departure may result in 1% deduction from your final semester grade.
 - **However, if you are experiencing personal challenges interfering with meeting my on-time expectations and you wish to share this information with me, please contact me to discuss what assistance may be available to you. If you are not comfortable speaking with me, then please reach out to your assigned Advisor or to Dr. Gurovich.**
 - If you have an unexpected reason for being late (eg, flat tire), please send me an email explaining the reason for your tardiness when it is safe to do so.
 - **NOTE:** *Being "on time" in the online learning environment means that you have arrived into the virtual classroom & are fully "connected" PRIOR to the start of class.*
3. **Electronic Devices:** Refer to current DPT Student Handbook "Electronic Devices" for DPT Program policy. Additional course-specific policy is as follows:
- If you are using cell phones, computers, &/or other electronic devices for purposes that are not directly related to meeting the learning objectives of this course, then I consider that to be disruptive behavior. Personal calls, texts, &/or emails should be completed outside of class time. See Professional Behavior Policy below. **However, exceptions will be made if you notify me in advance that you have an urgent reason to be monitoring texts or responding to calls (eg, family illness).**
4. **Professional Behavior Policy:** See DPT Student Handbook "Attendance and Classroom Behavior", "Professional Behaviors" and "Unprofessional Behavior:" for general program policy. Additional course-specific is as follows:

- I expect you to arrive to class prepared and to actively participate while not being disruptive. If you are consistently ill-prepared, not actively participating, and/or being disruptive, I will contact you to meet with me to discuss the problem in person or by email. Each subsequent incidence of poor preparation, poor participation, and/or disruption may result in 1% deduction from your final semester grade.
- DIVERSITY & INCUSION STATEMENT: I highly value diversity, and am committed to ensuring that you and all of your peers experience a sense of belonging in my course and our DPT Program. University spaces are intended to be safe, welcoming environments that support learning and are respectful of all individuals. Disrespect, discrimination, and harassment based on any personal characteristics (including but not limited to race/ethnicity, sex, gender identity, and sexual orientation) is not acceptable. Any direct or indirect instances of intended or unintended disrespect (including microaggressions), discrimination, or harassment should be reported to me immediately so that I may work to improve our learning environment. If I inadvertently create an unwelcoming environment for you, I ask you to please arrange a time to meet with me so that I can do better.
- TITLE IX INFORMATION:
 - The University of Texas at El Paso is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in any federally funded educational programs or activities.
 - Title IX protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination including sexual misconduct, sexual harassment, and acts of sexual violence. Sexual violence may include rape, sexual assault, sexual battery, sexual coercion, stalking, and relationship violence. Title IX prohibits institutions from excluding, separating, denying benefits, or otherwise treating individuals differently on the basis of sex. Sex based discrimination is prohibited at UTEP both by law and by University and UT System policies.
 - For additional information or questions, please contact the Title IX Coordinator, who can be reached by phone at (915) 747-8358, by email at titleix@utep.edu, or by mail at 500 W. University Ave., El Paso, TX 79968, Kelly Hall, Room 312. In addition to or in lieu of contacting the Title IX Coordinator, inquiries may also be sent to the Assistant Secretary of the Office for Civil Rights.
- Class is currently scheduled to be in-person. However, the potential exists for a class to be held via Zoom. Should that occur, my expectations are as follows: *The online learning environment is generally not optimally conducive to promoting a professional environment. Dogs bark and kids scream, and most of us have “offices” in bedrooms. I understand that flexibility is necessary. However, I expect you to be sitting or standing upright during class – as opposed to lying down. Lying down would not be acceptable in a face-to-face classroom. Additionally, I expect your cameras to be turned on so that we may maximize our engagement with each other; I consider having your camera on to be a component of active participation. Mute your microphone when you are not contributing to the discussion in the virtual classroom to avoid being unnecessarily disruptive. If you must “leave” briefly (eg, to go to the toilet), then please use the relevant online symbol to indicate to me that you have “stepped out” or send me a private message in the Chat box.*
 - *If your Internet bandwidth is too poor to allow consistent use of video, please contact me to discuss it.*

5. **Late or Missed Assignments and Assessments Policy:** See current DPT Student Handbook “Written Examination Policy”. Additional course-specific policy is as follows:
 - No opportunities will be provided for missed examinations unless it is for an excused reason (eg, documented medical emergency).
 - All written assignments are due at the date and time indicated. Assignments submitted after deadline time but on the due date will result in a 25% deduction due to the late submission. Assignments submitted after the due date will result in ZERO credit.
6. **Skills Check Policy:** not applicable
7. **Practical Exam Policy:** not applicable

Course Content and Schedule: (Note: Students will be notified of changes via Blackboard &/or email).

MODULE and DATES	RESEARCH METHODS TOPICS	STATISTICS TOPICS	ANALYSIS OF RESEARCH ARTICLES	READINGS & PREPARATION	ASSIGNMENTS (due at start of class on day indicated)	EXAMS
WEEK 3						
Module 1 TUES June 14 & THURS June 16	Overview of Evidence-Based Practice Scientific Method Ethical considerations in research & IRB <i>Pechak</i>	Quantitative data vs Qualitative data	Overview of peer-reviewed article Research vs non-research articles Research article components: BACKGROUND Problem statement PURPOSE	Ch 1-3 See links on p 4 above for the following resources: Online resource for Quoting & Paraphrasing Online resource for Primary & Secondary Sources	THURSDAY: <i>IRB Certificate of Completion</i> due by 1pm on Blackboard in Assignments Folder	

WEEK 4						
Module 2 MON June 20 & Tuesday June 21	Research questions & hypotheses <i>Pechak</i>	Null hypothesis & its relevance to statistical significance	RESEARCH QUESTION(S) HYPOTHESES	Ch 4 Journal articles per BB &/or faculty announcement		
Module 3 WED June 22 & THURS June 23	Research subjects/participants <i>Pechak</i>	Descriptive Statistics	METHODS: Participants	Ch 6, 9 Journal articles per BB &/or faculty announcement	THURSDAY: Team <i>Background, Problem Statement, and Purpose</i> due BY 1pm on Blackboard in Assignments Folder	
WEEK 5						
MON June 27						MON: EXAM 1 (MODULES 1-3) Bring fully-charged laptop and have most current version of Respondus LockDown Browser on your computer

<p>Module 4 TUES June 28 & WED June 29</p>	<p>Variables, validity, reliability <i>Pechak</i></p>	<p>Statistics to determine reliability & validity: tests of relationships</p>	<p>METHODS: Procedure</p>	<p>Ch 7, Ch 10 pp 192-194 Journal articles per BB &/or faculty announcement</p>		
<p>Module 5 THURS June 30 & FRI July 1</p>	<p>Research Design: Qualitative vs Quantitative</p>	<p>Effect size</p>	<p>DATA ANALYSIS Role of the Funding Source</p>	<p>Ch 5, 9 Journal articles per BB &/or faculty announcement</p>	<p>FRIDAY: Team Research question(s) and Hypotheses due by 1pm on Blackboard in Assignments Folder</p>	
<p>WEEK 6</p>						
<p>Module 6 TUES July 5 & THURS July 7</p>	<p>Research Design & Research Validity</p>	<p>Parametric & non-parametric stats related to differences, relationships, prediction</p>		<p>Ch 8, 10 Journal articles per BB &/or faculty announcement</p>	<p>THURSDAY: Team <i>Study Design and Sampling</i> section due by 1pm on Blackboard in Assignments Folder</p>	

WEEK 7						
MON July 11						MONDAY: EXAM 2 (Modules 1-6, with emphasis on Modules 4-6) Bring fully- charged laptop and have most current version of Respondus LockDown Browser on your computer
Module 7 TUES July 12 & WED July 13	Research Design & Research Validity	Parametric & non- parametric stats related to differences, relationships, prediction	RESULTS & DISCUSSION Study Limitations	Ch 8, 10 Journal articles per BB &/or faculty announcement	WEDNESDAY: Holocaust Museum reflection due by 1pm on Blackboard in Assignments Folder	
Module 8 THURS July 14	Intro to Article Appraisal Intro to Writing PICO question Overview of Systematic Review & Meta-Analysis	Effect size (revisited) Statistics used in meta- analysis	Systematic Review	See article posted on BB	THURSDAY: Team <i>Procedures</i> section due by 1pm on Blackboard in Assignments Folder	

WEEK 8		
Module 9 TUES July 19 & THURS July 21	Synthesis & address areas of weakness/confusion in preparation for Oral Defense and Final Exam next week	THURSDAY: Team PICO question & Article Appraisal & PDF of article due by 1pm on Blackboard in Assignments Folder FRIDAY July 22: Team <i>Data Analysis, Results, Discussion, and Limitations</i> due by 1pm on Blackboard in Assignments Folder
WEEK 9		
ORAL DEFENSE TUES July 26 & THURS July 28 Room 212	Each individual should arrive to the room prepared to orally explain key research concepts as described on Blackboard. See Blackboard in 'Important Information' folder for 'Oral Defense folder' for your team's scheduled time and day. While the Team will wait together in the hall, each individual will complete their own oral defense in the room. <p style="text-align: center;">You ONLY need to attend during your scheduled time this week.</p>	Oral Defense (Oral Demonstration of Research Knowledge)
FINAL EXAMS WEEK		
MON Aug 1 9am- 10:30am Room 115	Bring fully-charged laptop and have most current version of Respondus LockDown Browser on your computer	FINAL EXAM (Cumulative)

HOLOCAUST MUSEUM VISIT & WRITTEN REFLECTION: In order to better understand the background of existing training related to ethical research practices, students will visit the El Paso Holocaust Museum and submit a written reflection. See Assignments Folder on Blackboard for instructions and due date.

INSTITUTIONAL REVIEW BOARD (IRB) TRAINING: All students must complete IRB training so that everyone has baseline knowledge of ethical conduct related to research. Additionally, for those students who will do original research with faculty mentors for their Capstone Project, they will already have the required training done. Submit in Assignments Folder on Blackboard. To access the required training for the “CITI Program”, see <https://www.utep.edu/orsp/human-subjects-research/training/index.html>

- You will need to register and create an account.
- Choose “Add a Course” under “Learner Tools for University of Texas at El Paso”
- Then choose “Human Subjects Research”
- Then choose “Nursing, Pharmacy & Allied Health Researchers”
- Complete all modules
- Submit the certificate of completion to me via in Assignments Folder on Blackboard
 - NOTE: If you already have current CITI Training, then submit that certificate of completion.

MINI-RESEARCH MANUSCRIPT: Each Teaching-Learning Team will write a manuscript (in sections) that describes the simulated research project being carried out in this course. See Assignments Folder on Blackboard for instructions and due dates.

- **NOTE:** If all group members are not substantively contributing to each assignment, students are ethically obligated to report this lack of professional behavior to me immediately so that we may correct this behavior. Submitting each assignment with all team members’ names on the title page is your promise to me that each team member has substantively contributed to the assignment. Submitting assignments with all team members’ names when one or more of them did not contribute is considered scholastic dishonesty by me and will be treated as such.

ORAL DEMONSTRATION OF RESEARCH KNOWLEDGE (ORAL DEFENSE): Each Teaching-Learning Team will develop a PICO question relevant to physical therapist practice; identify a research article that answers this question; and formally appraise the article using a standardized method. Then, for the Oral Defense, each student will orally answer research concept questions related to their Team’s PICO and the article that the group appraised. See Assignments Folder on Blackboard for instructions and due date.