

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

PT 6116

PHYSICAL THERAPY CAPSTONE PROJECT I

Fall 2023

COURSE SYLLABUS  
Class of 2025

**Credit Hour:** 1

**Contact Hours:** 15 hours

**Schedule:** Meetings with advisor determined by each Capstone Advisor

**Instructors:**

Dr. Kosaku Aoyagi  
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**Course Description:** This is the first of two Capstone courses for Doctor of Physical Therapy (DPT) students. The Capstone courses will culminate in a completed study, a manuscript suitable for submission to a peer-reviewed journal, and a poster appropriate for presentation at a scholarly conference. The Capstone courses build upon relevant research content and experiences integrated across the DPT curriculum. By the end of the first Capstone course, students will complete a review of the literature, design a study, have data collection in progress, and begin to draft early components of the manuscript.

**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:**

By the end of this semester, the student will have:

1. Defended a scholarly project (literature review or mini-systematic review). (7B: Evidence-based practice and applied statistics; 7D9; 7D11) [Application]
2. Critiqued the research presentations of other graduate students. (7B: Evidence-based practice and applied statistics; 7D9, 7D11) [Evaluation]
3. Developed a research question that may be answered by using primary and/or secondary data. (7B: Evidence-based practice and applied statistics; 7D9, 7D11) [Synthesis]
4. Designed an appropriate study to answer the research question. (7B: Evidence-based practice and applied statistics; 7D9, 7D11) [Synthesis]
5. Met advisor expectations for data collection process. (7B: Evidence-based practice and applied statistics; 7D9, 7D11) [Application]

### **Curricular Threads**

- **Cultural / Linguistic Engagement and Competence:** n/a
- **Evidence-Based Practice and Research:**
  - Students complete a Capstone research project. Completion of the project contributes directly towards the further development of students' research methods knowledge and skills, which support evidence-based practice.
- **Clinical Reasoning:**
  - Through the development of research methods knowledge and skills, students improve their ability to develop hypotheses, synthesize knowledge, and use current evidence.
- **Interprofessional Collaborative Practice:** n/a

**Methods of Instruction:** Individual &/or small group instruction, research, and writing activities as determined by the respective Capstone Advisor

**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.

| <u>Item</u>   | <u>Grade Composition</u> |
|---|--------------------------|
| Attendance at & written assignment re: Class of 2023 poster presentations <b>Thursday of Finals Week</b> (tentatively 5-7pm)<br><br>(See rubric at end of the syllabus)                               | 5%                       |
| Oral defense/proposal defense related to written project (from Spring 1) on Week #2 of the semester – time <i>TBD</i><br><br>(See rubric at end of syllabus)  | 25%                      |
| PICO / RESEARCH QUESTION – developed and submitted by deadline  | 10%                      |
| DATA COLLECTION PROCESS - fulfillment of advisor-specific expectations  | 20%                      |
| Written assignment <ul style="list-style-type: none"> <li>• Original research: Intro &amp; Methods draft</li> <li>• Systematic review: PRISMA diagram, 10 appraisals, &amp; evidence table</li> </ul> | 40%                      |
| Total   | 100%                     |

**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
  - Harvey Castellano
    - [hcastell@utep.edu](mailto:hcastell@utep.edu)
    - Phone: 915-747-6734
    - Office: Library 322
- 2) Resources related to Systematic Reviews:
  - UTEP Library Guide for Physical Therapy  
<http://libguides.utep.edu/ptsr>
    - See “What is a Systematic Review?”
  - Murad MH et al. How to read a systematic review and meta-analysis

- and apply the results to patient care: users' guides to the medical literature. *JAMA*. 2014;312(2):201:171-179.
- Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). PRISMA checklist and flow diagram. <http://www.prisma-statement.org/>
- 3) Resource related to formulating a PICO question:
- UTEP Library Guide for Physical Therapy <http://libguides.utep.edu/ptsr>
    - See "Preparing for a SR"
  - Centre for Evidence-Based Medicine. Finding the Evidence 1 – Using PICO to formulate a search question. <http://www.cebm.net/finding-the-evidence-1-using-pico-to-formulate-a-search-question/>
- 4) Resources related to the Literature Search:
- UTEP Library Guide for Physical Therapy <http://libguides.utep.edu/ptsr>
    - See "Find the Evidence"
- 5) Resources related to the appraisal and appraisal tools:
- UTEP Library Guide for Physical Therapy <http://libguides.utep.edu/ptsr>
    - See "Appraise/Analyze"
  - International Centre for Allied Health Research. University of South Australia. Critical appraisal tools. <https://www.unisa.edu.au/research/Health-Research/Research/Allied-Health-Evidence/Resources/CAT/>
  - Centre for Evidence-Based Medicine. Critical appraisal tools. <https://www.cebm.net/2014/06/critical-appraisal/>
  - Critical Appraisal Skills Programme. CASP checklists. <https://casp-uk.net/casp-tools-checklists/>
- 6) American Medical Association. *AMA Manual of Style: A Guide for Authors and Editors*. 10<sup>th</sup> ed. New York City, NY: Oxford University Press; 2007.
- Available for free to UTEP students through UTEP Library
  - Go to <https://libguides.utep.edu/pt>
- 7) Resources related to how to format the manuscript:
- *Guidelines for Authors* (or *Author Guidelines*) are available online at the Web site for each journal.
    - For an original research project, students will follow the Guidelines for Authors / Author Guidelines for the faculty-approved journal to which the manuscript will be submitted.
    - For a systematic review, students will follow the Guidelines for Authors / Author Guidelines for *Physical Therapy (PTJ)* – unless the Capstone advisor approves a different peer-reviewed journal.

### Recommended Textbooks and Other Learning Resources:

- 1) Jewell DV. *Guide to Evidence-Based Physical Therapist Practice*. 5th ed. Burlington, MA: Jones & Bartlett Learning; 2023. ISBN-13: 978-1-284-24754-1

- 2) 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

### 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](mailto: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](http://www.utep.edu/chs/shc)
- **The UTEP Counseling and Psychological Services:** 202 Union West, 915.747.5302; [www.utep.edu/student-affairs/counsel](http://www.utep.edu/student-affairs/counsel)

#### Additional Resources:

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

**Course-Specific Policies:**

1. **Attendance Policy - Absences:** Refer to current DPT Student Handbook “Attendance and Classroom Behavior” for the DPT Program policy.
2. **Attendance Policy - Tardiness & Early Departures:** Refer to current DPT Student Handbook “Attendance and Classroom Behavior” for DPT Program policy.
3. **Electronic Devices:** Refer to current DPT Student Handbook “Electronic Devices” for DPT Program policy.
4. **Professional Behavior Policy:** See DPT Student Handbook “Attendance and Classroom Behavior”, “Professional Behaviors” and “Unprofessional Behavior:” for general program policy.
5. **Late or Missed Assignments and Assessments Policy:** See current DPT Student Handbook “Written Examination Policy”.
6. **Skills Check Policy:** not applicable
7. **Practical Exam Policy:** not applicable

**Course Content and Schedule:** Each student should communicate directly with her/his Capstone Advisor to determine schedule; see below for Capstone Advisor assignment. See below for content and due dates:

**CAPSTONE ADVISOR ASSIGNMENTS**

| <b>ORIGINAL RESEARCH (N=25 in 8 projects)</b> |   |
|---|---|
| <b>Advisor</b>                                | <b>Students</b>   |
| Dr. Kosaku Aoyagi                             | Natalia Aviles<br>Alicia Gomez<br>Layla Rodriguez<br>Roxanna Shababi  |
|   | Gage Manriquez<br>Alexa Solis<br>Eric Perez                           |
| Dr. Alvaro Gurovich                           | Trisha Ally Nicolas<br>Carlos Orozco<br>Nicholas Guzak<br>Jacob Jones |
| Dr. Michelle Gutierrez                        | Harrison Varnell<br>John Del Valle<br>Homero Alanis                   |
| Dr. Rhonda Manning                            | Alissa Saenz<br>Annie Feng  |
| Dr. Camila Torriani-Pasin                     | Adrian Chavarria<br>Taylor Chevalier<br>Lindy Miller                  |
| Dr. Fredy Mora Solis                          | Jessica Hinojosa<br>Jacob Krupa<br>Jasmine Ezell                      |
|   | Meagan Smith  |

|   |  |
|---|--|
|   | Arturo Ciriza<br>Andrew Blackburn                                      |
| <b>SYSTEMATIC REVIEWS</b> (N=7 in 2 projects) |  |
| <b>Advisor</b>                                | <b>Students</b>  |
| Dr. Balachandar Kathirvelu                    | Diana Martinez<br>Josefina Sloss<br>Mackenzie Webster<br>Ocean Stevens |
| Dr. Shashwati Geed                            | Evelyn Simmons<br>Giovanni Amaya<br>Christopher Bell                   |

### **OVERVIEW OF CAPSTONE STUDY OPTIONS**

All students will complete a research study for their Capstone project. Two broad options exist:

**Option 1 - Original Research:** The student may complete an *original research* study using *primary data*.

- The topic of the study will be directly relevant to the research interests of a DPT faculty member who will serve as the primary Capstone advisor, except under the following condition:
  - The student may propose a plan to complete a Capstone study under the mentorship of a UTEP faculty member outside of the DPT Program (eg, to continue with research begun as an undergraduate in Kinesiology), but this option will require DPT faculty approval.
- All students are encouraged to explore opportunities to participate in original research, and to meet with faculty whose research interests align with theirs; however, each faculty member has the freedom to determine which students s/he will mentor for an original research study.
- Each study will be completed by 1-4 students, with the faculty member determining the number of students s/he is willing to mentor for an original research study.
- Work related to the original research study will begin no later than Spring 1; therefore, **students should begin meeting with faculty in Summer 1. They will need to obtain faculty approval to participate in original research no later than Nov 15 (Fall 1).**
- During Spring 1 and Summer 2, the student will complete research-related tasks as directed by their Capstone advisor (inside and outside of courses). By **Aug 1** (Summer 2), the student and faculty member will decide if completion of the original research study remains feasible, **AND if the student is meeting expectations**. If either or both is/are not true, then the student will complete a systematic review for his/her Capstone study.

**Option 2 - Systematic Review:** The student will complete a *systematic review* using secondary data.

- Students who do not complete an original research study will complete a systematic review.
- Students may choose or default to the systematic review option by **Nov 15** (Fall 1)
- Students may self-select teams of 3-4 students.
  - If one or more students has not joined a team by **April 15** (Spring 1), faculty will determine a plan (which may include: forming a team of unassigned students, or assigning unassigned students to existing teams).
- Student teams then will be asked to identify their broad research interests (eg, neuro rehab), which will be *considered* in assigning the teams to Capstone advisors in order to best match teams with faculty.
- In rare exceptions, a systematic review student could transition into an original research; this would need to be done by **July 15** (Summer 2).]
- No guarantee is made that students will have the option to pursue their stated research interests. All student teams will complete systematic reviews on topics that are directly relevant to their Capstone advisor's research and/or teaching interests.

### **DEADLINES**

#### **Deadlines for PT Capstone Project I – Original Research**

- Research question is due to the Capstone advisor on **Sept 1** (Fall 2).
  - Faculty will provide feedback within 48 hours (not including weekends)
  - NOTE: In most cases, the research question will have been defined in the previous spring or summer
- Revised research question and summary of study design are due to the Capstone advisor on **Sept 10** (Fall 2).
  - NOTE: In most cases, this task will have been completed in the previous spring or summer
- Draft of Introduction & Methods sections due to the Capstone advisor on **Nov 15** (Fall 2).
  - The Introduction / Background section will be written to meet the requirements of the peer-reviewed journal to which the Capstone manuscript will be submitted
  - The intended journal choice must be approved by the Capstone advisor
  - *Guidelines for Authors* (or *Author Guidelines*) for peer-reviewed journals are available online at the Web site for each journal; these Guidelines will be found and followed
- Data collection expectations as determined by Capstone advisor must be met by **Dec 1** (Fall 2).
  - NOTE: In most cases, data collection will have started in the previous spring or summer.

#### **Deadlines for PT Capstone Project I – Systematic Review**

- PICO question is due to the Capstone advisor on **Sept 1** (Fall 2).



- The systematic review cannot duplicate a systematic review that was published within 5 years.
- Faculty will provide feedback within 48 hours (not including weekends).
- Revised PICO question and summary of study design (including planned search strategy) are due to the Capstone advisor on **Sept 10** (Fall 2).
- Systematic search must be done to answer the PICO question, and a draft of a PRISMA diagram is due to the Capstone advisor by **Oct 15** (Fall 2).
- A minimum of 10 articles must be appraised using a standardized appraisal tool(s) (appropriate for the design of the research study in each article). The priority should be to find articles published within the past 10 years. However, published articles of any publication date may be included in the systematic review if they are relevant. The following is due to the Capstone advisor by **Nov 15** (Fall 2):
  - final PRISMA diagram
  - one file that includes a completed appraisal tool for each article
  - PDFs of all articles that were appraised
  - evidence table that synthesizes key results of appraisal based on PICO
    - use standard format found below unless otherwise instructed by the Capstone Advisor

| Study Title | Quality Assessment [using any validated scale appropriate for study design] | # Participants | Participant Demographics | Experimental Group Intervention(s) | Control/ Comparison Intervention(s) | Results |
|-------------|---|----------------|--------------------------|------------------------------------|-------------------------------------|---------|
|             |   |                |                          |                                    |                                     |         |

**INSTRUCTIONS**

**Original Research Instructions:**

- The design of each original research study will be determined by the Capstone advisor in collaboration with his/her student / student team.
- Each student on the team is responsible for an equal portion of carrying out the study.

**Systematic Review Instructions:**

- The team must construct a clear, concise, and answerable question that is based on a specific patient problem in a content area determined by the Capstone advisor.
- All students will be active in the extraction and appraisal of articles found to answer the question.
- EVERY student will be involved in EVERY portion of the work – including:
  - EVERY student will have been involved in searching all databases.
  - EVERY student will APPRAISE every article that meets the study’s eligibility. Every student will appraise all 10 articles (or more if the group has found more than 10).

- Of the 10+ articles that are formally appraised, a MINIMUM of the top 6 will be synthesized in the written systematic review that will be completed for PT 6117 Capstone II.

**For Original Research and Systematic Reviews:**

The team must work cohesively by setting structured objectives to complete the final product. The expectation is for all members to contribute equally to the completion of the study. Through using effective communication and constructive conflict resolution as necessary, the faculty expects that the team will meet all objectives in a professional manner. However, in the event a conflict cannot be resolved, the team has the power to dismiss a team member. The consequences of being dismissed from a team may include delayed graduation (at a minimum of one semester) for the dismissed team member. The individual will be expected to complete a new original research study on his/her own.

In preparing written products, the team will read and follow all details of the instructions on the approved journal's Website.

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**PT 6116 ORAL DEFENSE/PROPOSAL DEFENSE RUBRIC**

Student Name: \_\_\_\_\_ Faculty Reviewer Name: \_\_\_\_\_

| <b>Expectations</b>                                       | <b>Fully Meets Expectations (2 pts)</b>  | <b>Partially Meets Expectations: (1 pt)</b>   | <b>Does Not Meet Expectations: (0 pt)</b>   | <b>Score</b> |
|---|--|---|---|--------------|
| <b>Preparation</b><br>(group grade)                       | Groups arrives early, and presentation meets time limit, and has no major errors on the PowerPoint                     | PowerPoint has a several minor or a few major errors  | Fails to arrive early and/or presentation exceeds time limit and/or has consistent errors throughout the PowerPoint |              |
| <b>Presentation</b><br>(group grade)                      | Presentation appears well rehearsed, and addresses the 3 articles  | Presentation is not coordinated at times, and/or presentation only partially addresses the 3 articles         | Presentation is overall poorly coordinated, and/or does not address the 3 articles                                  |              |
| <b>Vocabulary</b>   | Correct vocabulary is consistently used in answering the questions   | Uses incorrect vocabulary on occasion   | Consistently uses incorrect vocabulary in answering the questions   |              |
| <b>Clarity</b>  | Precise language is used when answering questions such that a follow-up question(s) is not required by the reviewer(s) | Attempts to use precise language, but the reviewer(s) must ask a follow-up question to clarify knowledge base | Consistently unable to use precise language in answering the questions  |              |
| <b>Speaking Skills</b>                                    | Is easily understandable, and answers the questions confidently, and keeps eye contact with the reviewers              | Relies on notes and is somewhat uncomfortable with or unsure of the topic                                     | Consistently unable to answer the questions confidently, relying on notes, and/or looking to others for answers     |              |
| <b>Completeness and accuracy of answer to Question #1</b> | Answer to question is overall complete, concise, and accurate (with <10% error)  | Answer lacks completeness &/or rambling &/or are partially inaccurate   | Answer is consistently incomplete and/or consistently inaccurate  |              |

|   |   |   |  |  |
|---|---|---|--|--|
| <b>Completeness and accuracy of answer to Question #2</b> | Answer to question is overall complete, concise, and accurate (with <10% error) | Answer lacks completeness &/or rambling &/or are partially inaccurate   | Answer is consistently incomplete and/or consistently inaccurate |  |
| <b>Completeness and accuracy of answer to Question #3</b> | Answer to question is overall complete, concise, and accurate (with <10% error) | Answer lacks completeness &/or rambling &/or are partially inaccurate   | Answer is consistently incomplete and/or consistently inaccurate |  |
| <b>Completeness and accuracy of answer to Question #4</b> | Answer to question is overall complete, concise, and accurate (with <10% error) | Answer lacks completeness &/or rambling &/or are partially inaccurate   | Answer is consistently incomplete and/or consistently inaccurate |  |
| <b>Completeness and accuracy of answer to Question #5</b> | Answer to question is overall complete, concise, and accurate (with <10% error) | Answer lacks completeness &/or rambling &/or are partially inaccurate   | Answer is consistently incomplete and/or consistently inaccurate |  |
| <b>POINTS DEDUCTED</b>                                    |   | <p>1 point deducted for each incident of answering a question for a teammate without being called upon.</p> <p>4 points deducted for not arriving in professional dress (appropriate for presentation at a state or national conference).</p> |  |  |
| <b>TOTAL POINTS:</b>                                      |   |   |  |  |

**PT 6116 Poster Session Rubric (for attending poster presentations of graduating cohort)**

**Student Evaluator Name:** \_\_\_\_\_

**NOTE: Each student must attend a minimum of 3 poster presentations, secure a signature from the presenter, & document their assessment below:**

| Poster Title | Signature of presenter(s) | Strengths of poster format & content* | Strengths of presentation* | Areas to improve poster format & content* | Areas to improve presentation* |
|--------------|---------------------------|---------------------------------------|----------------------------|---|--------------------------------|
|              |                           |                                       |                            |   |                                |
|              |                           |                                       |                            |   |                                |
|              |                           |                                       |                            |   |                                |

**\*Note:** Provide at least 2 substantive comments in each area. 1 point = substantive comment; 0 point = no comment or not substantive  
 If there is no poster title &/or no signature, the student will not earn any points for attending that poster.

**OVERALL REFLECTIONS:**

**What are the top 3 lessons you learned about evidence-based practice? (3 points)**

**What are the top 3 “take-home messages” that you learned related to successfully completing and presenting your Capstone research? (3 points)**

Total points possible = 30 points

Final grade: \_\_\_\_/30 = \_\_\_\_

**Each student evaluator should submit this completed document to their shared UTEP DPT Program OneDrive folder by 5pm on the day immediately following Poster Presentations.**

**This Rubric is ONLY submitted by first-year DPT Students attending the poster sessions. Students presenting posters (graduating students) DO NOT submit this rubric anywhere.**