

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

**PT 6116**

**Physical Therapy Capstone Project**

**Fall 2017**

**Credit Hours:** 1

**Contact Hours:** 15

**COURSE SYLLABUS**

**Schedule:** Independent Study  
Private Oral Defenses with Faculty December 11, 2017 from 9am-noon  
Public Poster Presentations December 14, 2017 from 4-7 pm

**Capstone Instructors:** Rhonda Manning, PT, DPT, PCS  
Mark Caulkins, MD, DPT  
Loretta Dillon, PT, DPT  
Michelle Gutierrez, PT, DSc  
Celia Pechak, PT, PhD, MPH  
Bryan Boyea, PT, DPT, OCS  
Kevin Browne, PT, ScD, OCS

**Course Description:**

During the final semester of the Doctor of Physical Therapy Program, students will complete an evidence-based research manuscript and poster presentation relevant to physical therapy practice. Most students will complete an evidence-based report related to a patient case. Selected students, at the invitation of a core faculty member, will participate in the faculty member's original research line. All students must produce a manuscript suitable for publication in a peer-reviewed journal and a poster appropriate for presentation at a state or national conference.

**Course Objectives:**

Prior to this semester, the student will have:

1. Developed a research question
2. Designed an appropriate study to answer the research question (for most students, this will be systematic review to answer a PICO question)
3. Completed a study to answer the research question

During this course, the student will:

1. Produce a manuscript consistent with the requirements of *Physical Therapy* (7D9,7D11)
2. Produce a poster that summarizes his/her research project and is appropriate for presentation at a state or national conference (7D9,7D11)
3. Demonstrate knowledge of research design and validity through a professional quality presentation and an oral defense of his/her research project (7D9,7D11)

**Resources:**

Resources related to Systematic Reviews:

- <http://www.medicines.ac.uk/bandolier/painres/download/whatis/Syst-review.pdf>
- <http://research.library.gsu.edu/c.php?g=115802&p=752506>
- 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.

Library Guide for Poster Design: <http://libguides.utep.edu/posters>

**Recommended Texts:**

Jewell DV. Guide to Evidence-Based Physical Therapist Practice, 3rd Ed. Burlington, MA: Jones & Bartlett Learning; 2015. ISBN-13: 978-1-284-03416-5

Portney LG, Watkins MP. *Foundations of Clinical Research: Applications to Practice*. 3rd Ed. Philadelphia, PA: FA Davis Co; 2015. ISBN-13: 978-0-8036-4657-5

Fetters L, Tilson J. *Evidence Based Physical Therapy*. Philadelphia, PA; FA Davis; 2012. ISBN-13: 978-0-8036-1716-2

**Methods of Instruction:**

Individual instruction will be held with respective capstone advisor to complete the manuscript and poster presentation requirements.

**Methods of Evaluation:**

Graded activities and their weight are as follows:

Research Manuscript	40%
Poster	20%
Poster Presentation	20%
Oral Defense (individual grade)	10%
Reflection Paper (individual grade)	10%

**UTEP DOCTOR OF PHYSICAL THERAPY PROGRAM GRADING SCALE**

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

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

**Course Content:** Research project (systematic review or other project)

**Special Accommodations (ADA):**

“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. For additional information, visit the CASS website at <http://sa.utep.edu/cass/>

**Deadlines for Capstone Project:**

- Meet with Capstone advisor on **Wednesday Aug 30**: Every article should have been appraised by each member of the group using standardized appraisal tool, and group consensus should have been reached prior to this date. See instructions on page 6 of this syllabus for more information as to what you will need to present.
- Full 1<sup>st</sup> draft of manuscript (with all sections completed per PTJ author instructions, including abstract) is due to your Capstone advisor on **Friday Sept 15**
  - Each advisor has the option to set earlier deadlines for portions of the manuscript
  - Faculty are required to send you their input within 2 weeks
- FINAL manuscript is due to your Capstone advisor on **Friday Oct 20** – this is the paper that will be graded.
- Full 1<sup>st</sup> draft of the Poster is due to your Capstone advisor on **Friday Nov 3**
  - Faculty are required to send you their input within 1 week
- FINAL draft of the Poster (formatted for 48” width x 36” height) is due to your Capstone advisor & to John in ILC [jpena13@utep.edu](mailto:jpena13@utep.edu) on **Monday Nov 27**
  - John will print out a ½-size hard copy of poster that week (paid for by DPT Program) that advisors and students will look at next week
- You will meet with your advisor on **Monday Dec 4** to complete final edits on the hard copy of the poster – communicate directly with your advisor regarding time and location
- You must submit FINAL-FINAL poster for printing no later than **Wednesday Dec 6** (paid for by DPT Program) – more details to follow about if we will use library vs ILC for this
- Reflection paper is due **Wednesday Dec 6 to** your Capstone advisor
- DEFENSE of your research project will be scheduled on **Monday December 11** with 2 faculty members; you will EACH be required to answer questions regarding your project and general research knowledge & you receive an individual grade – more information to follow
- Public poster presentation – **Thursday December 14**
  - Communicate directly with your Capstone advisor regarding a possible additional practice session prior to your public poster presentation

**Oral Defense Date:**

Private Oral Defenses with Faculty will be on **Monday December 11** at the Campbell Building Schedule & room number to be announced

**Public Poster Presentation Date:**

**Thursday December 14** from 5-7pm (poster must be mounted in Health Sciences and Nursing (HSN) Building lobby by 4:50pm)

**Reflection Paper: (10% of final grade)**

- Reflection paper is due **Wednesday December 6.**
- Each student will submit a 1 ½ to 2 page doubled-spaced paper electronically to his/her advisor answering the following in the body of the paper.
  1. What did the Capstone project teach you with respect to evidence-based practice?
  2. How did this project enhance your clinical reasoning skills?
  3. How will you become a better DPT based on what you learned from this Capstone project?
  4. How could this Capstone project be improved for future cohorts?
- Each paper should have 6 paragraphs: an introductory paragraph, one paragraph answering each of the following, and a concluding paragraph.

<b>INDEPENDENT RESEARCH PROJECT</b>	
<b>Advisor</b>	<b>Student</b>
Dr Celia Pechak	Jimenez
<b>SYSTEMATIC REVIEWS</b>	
<b>Advisor</b>	<b>Students</b>
Dr Loretta Dillon	LaTonya Jackson Amanda Aranda Audrey Branscum Marcela Bagues
	Wyatt Worrell Ricardo Rodriguez Levi Johnson
Dr Michelle Gutierrez	Brandon Dougherty Deborah Trueba Matt Lares
	Felicity Aguirre Marisa Bautista Bianca Vigliante Chelsea Villa
Dr Mark Caulkins	George Nunez Steve Murga Isaac Cordova Luke Slama
Dr Bryan Boyea	Justin Tallard Lindsay Levine Sarah Elmore

Dr Rhonda Manning	Kelsey Novosad Sarah Dickson Bailey Murphy
Dr Kevin Browne	Katie Williams Katie Roby Natalie Raisor Kaitlyn Stowers
Dr Celia Pechak	Bradley Kinyon Raquib (Kiki) Figueroa Keith Cardona Ashley Williams

### Systematic Review Instructions:

The systematic review will be completed by a team of 3-4 students. All students will be active in the extraction and appraisal of articles found to answer a clinical question. The team must construct a clear, concise, and answerable question that is based on a specific patient problem students encountered during the curriculum.

- EVERY student should be involved in EVERY portion of the work – including:
  - EVERY student should have been involved in searching all databases. If this is not how you did it, you should be clear in your Methods section who did what: “Two investigators (CP, LD) searched the following databases...”
  - EVERY student should APPRAISE every article. You should not be splitting the articles among the group. Every student should appraise all 10 articles (or more if you have more than 10).
  - While you may of course choose to split up sections of the manuscript, particularly initially, EVERY student should still be involved in editing every portion of the paper.
- Your Methods section should clearly explain how your search was completed – including all words used in the search. The point is that you give enough information that it is reproducible. Create a table like below as an APPENDIX in your paper. You can find more information about it at: <http://www.cebm.net/finding-the-evidence-1-using-pico-to-formulate-a-search-question/>

P	I	C	O
Elder	Closed-chain	Aerobic exercise	Functional mobility
Geriatric	Strengthening	endurance	balance
	Strength training		Fall risk

- Of the 10 articles that you formally appraise, a MINIMUM of the top six (6) should be synthesized in your systematic review.
  - You must include the appraisal table(s) of all them in your paper as a table(s) OR as an appendix(es)
- Each group can choose whatever standardized appraisal tool(s) to use as appropriate – you must justify why you chose them (eg, used in other published systematic reviews in PTJ) and you discuss validity/reliability issues in your paper (with references)

7/12/2017

- Here is a good link with lots of options depending on the type of study:  
<http://www.unisa.edu.au/Research/Sansom-Institute-for-Health-Research/Research/Allied-Health-Evidence/Resources/CAT/>
- The CEBM worksheets are found at: <http://www.cebm.net/critical-appraisal/>
- Other resources can be found at: <http://www.casp-uk.net/#!checklists/cb36>
- If in doubt, get pre-approval from your advisor

Each group will present to his/her advisor on **Wednesday August 30** (as part of your grade for Specific Populations PT 5225). You should be prepared to provide a 15-20 minute PowerPoint presentation addressing the following:

- PICO question
- Briefly review Methods
- Briefly review Appraisal table(s) for ALL articles
- Then explain the single BEST article in depth that addresses your PICO question

Then your advisor will further probe your knowledge with questions related to your methods, the articles, and research methods in general – to help prepare you for the REAL Capstone defense in December

The team must work cohesively by setting structured objectives to complete the final product. The goal of which is for all members to contribute equally to the completion of a systematic review suitable for publication. 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 will delay graduation, at a minimum of one semester, for the dismissed team member. The individual will have to complete an independent project and present an oral defense in the spring semester to the satisfaction of all faculty.

All students who complete a systematic review must follow the relevant *Physical Therapy* (PTJ) guidelines to authors found at:

[https://academic.oup.com/ptj/pages/Author\\_Guidelines](https://academic.oup.com/ptj/pages/Author_Guidelines)

Read and follow all details of the instructions on the PTJ Website. The exception is that only an unmasked manuscript will be submitted to the faculty advisor; a “masked version” (or blinded version – ie, where your name and institution would not be included) does not have to be submitted. Also students do not need to submit “online-only” materials nor video for this assignment.

1. Read the review process in detail as well as the PRISMA checklist and flow diagram.
2. PRISMA requirements are found at: <http://www.prisma-statement.org/>  
(Key documents are found at this site).
3. The manuscript formatting instructions must be followed:
  - a. Title-follow character limits (this title will be used in the doctoral reception documents and on your graduation application)
  - b. Abstract –follow word limits and use of required subheadings

- c. Body of manuscript-follow all instructions for word count, subheadings as stated, and for all sections as listed below:
  - i. Introduction
  - ii. Methods (with required subheadings per PTJ Website)
  - iii. Results
  - iv. Discussion
- d. Acknowledgments
- e. References
- f. Tables
- g. Figures
- h. Appendixes

The title page of the manuscript should have the following included:

- Title
- University of Texas at El Paso
- Author(s)
- Faculty Advisor
- Clinical capstone project submitted in partial satisfaction of the requirements for the Doctor of Physical Therapy Degree.

A signature page is also required that meets the UTEP Graduate School's expectations.

**Independent Research Project Instructions:** Students who are completing an independent research project should be communicating closely with his/her faculty advisor regarding expectations.

**Manuscript Submission:** The team will submit one Word-processed double-spaced manuscript along with any files of journal articles which are referenced to his/her advisor.

In addition, the final document along with the signature page must be scanned and emailed to Beverly Scarborough at [bscarborough@utep.edu](mailto:bscarborough@utep.edu) along with the PowerPoint of the poster presentation by the deadlines described above.

**Manuscript Rubric:** The rubric for students who complete a systematic review is below. Students who complete an independent research project will have similar expectations. However, the manuscript sections and content will vary depending on the type of study and manuscript (eg, quantitative versus qualitative); therefore his/her rubric will likely vary somewhat. Students who complete an independent research project should communicate closely with their Capstone advisors to be aware of expectations.

	<b>Criteria</b>	<b>Needs substantial improvement 0</b>	<b>Needs moderate improvement .5</b>	<b>Needs minor improvement 1-1.5</b>	<b>Meets standards 2</b>
Style 2 points	Correct AMA style, title page with correct format, 10-15 references, citations, inclusive sections, and subheadings	AMA ignored	several errors	few errors	no errors
Structure 2 points	Well structured & cohesive. Correct sentence structure, grammar, and spelling. Appropriate length. Appropriate transitions between paragraphs and sections.	writing structure needs major overhaul	several spelling or grammatical errors +/- or more than 2 awkward or unclear sentences	few spelling or grammatical errors +/- or 1 or 2 awkward or unclear sentences	no spelling or grammatical errors – well written and cohesive
Title 1 point	Title reflects scope of the review, no longer than 150 characters	title does not accurately reflect scope of review and longer than 150 characters	title does not accurately reflect scope of review but meets character limits	title is confusing or title is appropriate but > 150 characters (.8 pts)	no errors (1 pt)

Abstract 2 points	Abstract structure Background, Purpose, Data Sources, Study Selection, Data Extraction, Data Synthesis, Limitations, Conclusions	no subheadings, unable to summarize	summary is completed, no subheadings or inappropriate subheadings	summary is completed missing 1-2 components	well documented abstract
Introduction 2 points	Background information provides rationale for included purpose statement. Review of literature supports question or problem and is thorough and well described.	no background information and no purpose statement	little or no background information and/or poorly written purpose statement	some background information (insufficient rationale) and well-written purpose statement	well documented background information that leads to well-written purpose statement with all components supported by research literature
Methods 2 points	Includes subheadings of Data Sources and Searches, Study Selection, Data Extraction and Quality Assessment, Data Synthesis and Analysis	important information missing – impossible to follow and understand	important information missing – difficult to follow and understand	most important information included – easy to follow and understand with 1 or 2 exceptions	all important information included – easy to follow and understand
Results 2 points	PRISMA guidelines followed and flowsheet is included	guidelines not followed, no flowsheet	steps missing and data missing from the flow chart	1-2 omissions from the guidelines	no omissions

<p>Discussion 2 points</p>	<p>No more than 5 paragraphs, statement of principal findings, strengths and weaknesses of the studies, strengths and weaknesses in relation to other studies, discusses important differences in results and meaning of the SR: possible explanations and implications for clinicians and policymakers, unanswered questions and future research reported</p>	<p>important information missing – impossible to follow and understand</p>	<p>important information missing - difficult to follow and understand</p>	<p>most important information included with 1 or 2 exceptions</p>	<p>major points summarized</p>
<p>Meeting deadlines 1 point (individual grade)</p>	<p>Deadlines met throughout the 12 week internship and demonstrated timely communication with advisor and each team member.</p>	<p>missed more than 2 deadlines or did not communicate with advisor</p>	<p>missed 2 deadlines or poor communication</p>	<p>missed 1 deadline (.8 pts)</p>	<p>met all deadlines and communicated well with advisor (1 pt)</p>

**Total 100 points: Weight factor as follow:**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <b>Style: 2 points max X 5 = 10</b></li> <li>2. <b>Structure: 2 points max X 10 = 20</b></li> <li>3. <b>Title: 1 point max X 2 = 2</b></li> <li>4. <b>Abstract 2 points max X 5 = 10</b></li> </ol> | <ol style="list-style-type: none"> <li>5. <b>Methods: 2 points max X 7.5 = 15</b></li> <li>6. <b>Results: 2 points max X 10 = 20</b></li> <li>7. <b>Discussion: 2 points max X 10 = 20</b></li> <li>8. <b>Deadlines: 1 point max X 3 = 3</b></li> </ol> |
|---|---|

**PT 6116  
CAPSTONE POSTER RUBRIC  
(Group Grade)  
Systematic Review**

Student Group: \_\_\_\_\_

Faculty Reviewer: \_\_\_\_\_

**Poster Formatting**

Criterion	Unsatisfactory Needs Remediation	Needs Improvement	Meets Expectations
Title, authors, and academic advisor (with correct credentials), and institution are centered with appropriate font	0	1	2
Conforms to AMA standards (including citations, tables, figures, references)	0	1	2
Professional quality display (eg, font size, background, color, etc)	0	1	2
Presentation is organized, flows well, and not cluttered	0	1	2
COMMENTS:			

**Content**

Criterion: <i>Systematic review process is clearly demonstrated</i>	Unsatisfactory Needs Remediation	Needs Improvement	Meets Expectations
Clear, concise, and focused research question is stated	0	1	2

7/7/2017

Question is relevant to physical therapy practice	0	1	2
Eligibility criteria with rationale stated	0	1	2
Search strategy is comprehensive	0	1	2
Appraisal of included/excluded articles is appropriate	0	1	2
PRISMA flowchart is included as a Figure with all components included	0	1	2
Results of studies are reported	0	1	2
Summary of evidence is reported including strength of evidence	0	1	2
COMMENTS:			

**Conclusion**

<b>Criterion: <i>Appropriate conclusions provided to answer the question posed</i></b>	<b>Unsatisfactory Needs Remediation</b>	<b>Needs Improvement</b>	<b>Meets Expectations</b>
General interpretation of the results & clinical implications are reported	0	1	2
Limitations & future research are reported	0	1	2
References are provided (on poster or separate handout)	0	1	2
COMMENTS:			
TOTAL = _____ / 30 points = _____%			

**Public Poster Presentation  
(Individual Grade)**

**General expectations:** Each student is expected to participate fully in the public presentation of his/her group's poster, and demonstrate professional dress and behavior as if presenting at a state or national conference. If a student meets these expectations, s/he will earn 20 of 20 points. Failure to meet these expectations will result in deductions per below:

- -20 points if student does not attend public poster presentation
- -20 points if student does not consistently present his/her fair share of the poster (eg, each student in a group of 4 should present ~25% of the poster)
- -5 points for unprofessional dress
- -5 points for unprofessional behavior (eg, negative body language, repeatedly interrupting colleagues, chewing gum, etc)
- -1 point for each minute late

**TOTAL = \_\_\_\_\_ / 20 points**