

## Key Course Information

<b>Course Number:</b>	DPT 790
<b>Course Title:</b>	Clinical Research in Physical Therapy
<b>Credit Hours:</b>	3
<b>Weekly Schedule:</b>	Mondays & Thursdays, 9:00 to 10:20am
<b>Course Location:</b>	BHS 130
<b>Office Hours:</b>	by appointment
<b>Instructor:</b>	TBD

### **Course description:**

Introduction to principles and concepts of clinical research in physical therapy. Covers development of the research question, measurement issues, statistical analysis, literature review, and writing of results.

### **Course structure:**

This is the third course in the critical inquiry course series (after DPT 726 Professional Development I and DPT 727 Evidence-Based Practice). Students will continue to build upon knowledge and skills acquired in the prior courses and apply the principles and concepts of research to physical therapy science and practice. This course will address: development of the research question, measurement issues, experimental designs, identification of service-learning needs, some basic concepts of statistical analysis, critical review of clinically relevant literature, and proposal preparation. Students will gain practical experience with the research process by commencing specific elements of the group DPT service-learning or research project to which they will be assigned in the Directed Research course (DPT 798). The end product expected from this class is a well-written clinical research or service-learning proposal of the project that the student is expected to execute in the next 2 years.

### **Prerequisites:**

Graduate standing in the Department of Physical Therapy.

### **Course objectives and learning outcomes:**

The following objectives are aligned with curriculum content from the Commission on Accreditation in Physical Therapy Education (Evaluative Criteria of PT Programs- updated 08/2024), the APTA Minimum Required Skills of Physical Therapist Graduates at Entry-Level core document content, and the Normative Model of Physical Therapist Professional Education: Version 2017. The following evidence-based models are integrated into course instruction to support clinical reasoning and patient-centered care: HOAC II (Hypothesis-Oriented Algorithm

for Clinicians II) clinical reasoning methodology (Rothstein, Echtertnach, & Riddle, Physical Therapy, 2003); The International Classification of Functioning, Disability and Health (ICF) model; The Patient-Client Management Model as outlined in the Guide to Physical Therapist Practice.

Additionally, this course has been designed to be consistent with the following guidelines and recommendations:

- Evidence-Based Practice Special Interest Group, Section on Research, American Physical Therapy Association, Doctor of Physical Therapy Education Evidence-Based Practice Curriculum Guidelines.

*At the completion of the course the student will be able to:*

1. Engage in active exchange of knowledge and ideas related to physical therapy science.
2. Refine research skills to include strategies for comprehensive/research-focused literature reviews for production of clinical research or service-learning projects.
3. Explain the importance of previously published research to the knowledge accumulation process.
4. Understand ethical concerns involved in both human and animal research, and be able to apply that knowledge to any interactions with subjects or participants in research or service-learning activities.
5. Identify research topics, and evaluate the clinical significance.
6. Learn the basics of research methods and experimental design including composing research questions, and developing and testing a hypothesis.
7. Compare and contrast different types of or approaches to research relevant to rehabilitation including experimental vs. quasi-experimental vs non-experimental designs, qualitative vs. quantitative designs, group vs. single subject designs, and types of observational designs.
8. Identify independent, dependent, and potentially confounding variables in different types of studies.
9. Apply all levels (types) of data collected in rehabilitation research to clinical and research problems.
10. Explain and interpret the different types of reliability and validity, and specify methods for testing each.
11. Explain the significance of random vs. convenience and other types of sampling techniques.
12. Examine bias and confounding and their impact on research design.
13. Organize and synthesize resources relevant to student's own service learning or research project to produce first draft of literature review and methods.
14. Write critically, and in styles conform to formats typically used in scientific documentations.
- 15. Identify a community need for a service-learning project, and use research methods to**

support the justification for and development of a service-learning project.

### **Evaluation Methods:**

Students will have the following opportunities to demonstrate their learning and be evaluated in this course. Detailed instructions and rubrics will be provided separately.

#### **A. Annotated bibliography (15 points)**

Students will work in their assigned DPT research or service learning project groups to produce an annotated bibliography of research articles of relevance to their project. The purpose of this assignment is to gain familiarity with, and start to organize, the professional literature relevant to their specific project. This must contain a minimum of 10 articles. The annotations that you add to each citation should follow this format:

Purpose of the study, brief methods summary, brief results summary, major limitations, implications or application to your project. These annotations should be no more than 5-6 sentences and a single paragraph.

Put your full names at the top of the document and name the file: Last Name Last Name Last Name Biblio DPT790 2025

#### **B. Service learning or research abstract (10 points)**

Students will work in their assigned DPT project groups to complete a summary of their introduction and methods in the form of a conference-style abstract. Conference style abstracts are longer than abstracts in published papers. You should have 4-6 paragraphs in the introduction and 2-6 paragraphs in your methods. Citations should be included throughout to support statements of fact or claims. You should write the purpose and methods in past tense language. The purpose of this is to assimilate information from the professional literature to formulate and describe the rationale behind the project, and the project methods. The group must submit this with an iThenticate Report. Put your full names at the top of the document and name the file: Last Name Last Name Last Name abstract DPT790 2025

#### **C. Service learning or research presentation (20 points)**

In their assigned DPT research or service learning project groups, students will compile a 10-minute presentation of their project introduction and methods and deliver it to their peers and faculty. The purpose of this assignment is to gain experience in building and delivering a compelling rationale, and to get preliminary feedback on the project at this early stage in its development.

#### **D. Service learning or research grant proposal (SORG; 30 points)**

Students will work in their assigned DPT project groups to complete a grant application for funding for their project. The purpose of this assignment is to move each group toward completion of an initial draft of the introduction and methods section of their papers (and IRB protocol if appropriate). The group must submit this with an iThenticate Report, and assignments will not be accepted without one.

#### **E. Service learning or research grant proposal peer review (10 points)**

In their assigned DPT project groups, students will discuss and critique the SORG proposal of another project group. The purpose of this assignment is to gain experience in critiquing scientific writing, and in providing peer feedback. Students will also benefit

from the feedback they receive from their peers, which they may use to improve their proposal prior to submission.

**F. In class Activities (10 points)**

Students will participate in class activities. The purpose is to discuss concepts and ideas relating to concepts being discussed that day.

**G. CITI training (5 points)**

Students will send their certificate of completion of the Collaborative Institutional Training Initiative (CITI) training for Human Subjects (Biomedical) research required by UNLV's Institutional Review Board. You will need to register but there is no charge for the training. (<https://www.unlv.edu/research/ORI-HSR/training>). **Completion of this assignment is required to pass the class.**

**Grading:**

The course grade will be based on the following:

Annotated bibliography	15 points
Abstract	10 points
Presentation	20 points
SORG proposal	30 points
SORG peer reviews	10 points
Discussion boards	10 points
CITI training completion	5 points
In Class Activities	10 points
<b>Total:</b>	<b>110 points</b>

Numeric and Letter Grade Translation (no rounding)

A	93-100	C+	77-79.99
A-	90-92.99	C	73-76.99
B+	87-89.99	F	<73
B	83-86.99		
B-	80-82.99		

**Instructional Practices:**

**Teaching Methods**

- a. In class lecture
- b. Class discussion
- c. Application exercises
- d. Collaborative projects
- e. Student self-study
- f. Online instruction via Web Campus
- g. Online discussion boards

**Teaching Aids**

- a. PowerPoint presentation
- b. Video
- c. Handouts

- d. Web Campus
- e. White board

**Expectations and Student Responsibilities:**

1. All students are expected to arrive in class on time in appropriate attire and prepared for each day's topics of discussion.
2. All students are expected to participate in class activities and discussions, including group activities.
3. All students are expected to check Web Campus and UNLV email daily for communications.
4. All students are expected to complete assignments as directed.
5. All students are expected to conduct themselves according to the Generic abilities for physical therapy and guidelines set forth in the Department of Physical Therapy Policy and Procedure Manual.

**Recommended Texts:**

- Portney LG. Foundations of Clinical Research: Applications to Evidence-Based Practice, 4<sup>th</sup> ed. FA Davis; 2020. ISBN13: 9780803661134

**Course Policies:**

For general Course Policies see the Department of Physical Therapy Student Manual. For Academic Policies for Students see <https://www.unlv.edu/policies/students> or scan the QR code below.

