



**SCHOOL OF HEALTH
AND REHABILITATION
SCIENCES**

INDIANA UNIVERSITY
IUPUI

INTEROFFICE MEMORANDUM

TO: IUPUI GRADUATE AFFAIRS COMMITTEE
FROM: BRENT L. ARNOLD, CHAIR OF HEALTH SCIENCES
SUBJECT: KEITH AVIN, DEPARTMENT OF PHYSICAL THERAPY
JOINT PHD-DPT DEGREE
DATE: 8/17/2016
CC: JOYCE MAC KINNON, ASSOCIATE DEAN, SHRS

Please find attached a request to establish a joint degree by combining two existing degrees: the Doctorate in Physical Therapy and the Doctor of Philosophy in Health and Rehabilitation Sciences. Combining these two degrees will be accomplished via the designated concentration in the PhD curriculum. The PhD includes 30 credits of coursework as a concentration. This concentration may be designated in one of three areas: Pathophysiology and Impairment (PI), Functional Limitations (FL), or Health Services (HS). The coursework for each of these areas has not been specified. Rather, collaboration between the student and the student's Advisory Committee prescribes the coursework to be taken for the concentration. The joint degree program will use 30 credits from the DPT to form the concentration. Examples have been provided for a musculoskeletal rehabilitation and neurologic rehabilitation options within PI and FL concentrations (see attached).

The advantage of this joint degree is economy of credits and time. The DPT is 105 credits. The PhD is 90 credits. Completing the degrees independently requires 195 credits typically across 7 years. The joint degree would require 165 credits and is expected to reduce time to completion for both degrees from 7 to 5.5 years.

Indiana Commission for Higher Education
Checklist of Criteria
For the joint PHD-DPT in
Health and Rehabilitation Sciences and Physical Therapy

I. Characteristics of the Program

- A. Campus Offering Program: IUPUI
- B. Scope of Delivery: This program will be limited to the IUPUI campus.
- C. Mode of Delivery: This program is delivered in the classroom. However, depending on the courses selected for the program of study, some courses may be hybrid or online.
- D. Other Delivery Aspects: Practica and clinicals are included as part of the existing degrees, i.e. DPT and PhD.
- E. Academic Unit Offering Program: Departments of Health Sciences (PhD) and Physical Therapy (DPT) in the School of Health and Rehabilitation Sciences.

II. Rational for program

A. Institutional Rationale

The rationale for developing a dual program of the Doctor of Physical Therapy & Doctor of Philosophy is based on the American Physical Therapy Association (APTA) mandate to train well-qualified teaching faculty and the dearth of well-qualified medical scientists in the field of rehabilitation. Teaching evidence-based practice is the cornerstone of effective physical therapy practice and education. To advance clinical evidence and develop research endeavors, further training is required to produce faculty that are well versed in both research and practice. Currently, there is a lack we well trained PhD trained Physical Therapy faculty to educate DPT students and even greater dearth of competitively funded scientists.

Dual degree programs are well established across a number of disciplines in both the sciences and humanities. The most well-known dual degree program in the United States is the MD–PhD, which was first established at Case Western Reserve University School of Medicine in 1956, and is now offered at 43 US institutions. The goal of this program was to streamline efforts in developing medical scientists who successfully contribute to the advancement of scientific knowledge and translate findings to improve patient outcomes and health. The success of this program is clear, with the vast majority (over 80%) of MD–PhD choosing to enter academia, government, or industry where medical research is a central component of their duties. Further, in 2000 study from Zemlo et al., graduates of NIH-funded medical scientists training program (MSTP) make up just 2.5% of medical school graduates each year, but after graduation, account for ~1/3 of all NIH research grants awarded to physicians. The success demonstrated in training MD-PhD could be performed in other health and rehabilitation specialists. However, current training programs categorize students as either medical scientists training program (MSTP) or less commonly, non-MSTP funded dual-degree programs (e.g., JD and MBA degrees); both of which ignore the academic advancement of the physical therapy degree.

The dual degree program at Indiana University, School of Health and Rehabilitation Sciences Department of Physical Therapy aims to provide a streamlined curriculum to develop well-trained medical scientists in the field of physical rehabilitation. The dual degree program is central to the Physical Therapy department’s mission and vision.

Mission: to educate competent autonomous DPTs who, by their commitment to advance the health and quality of life for all, are leaders regionally, nationally, and internationally. The faculty is dedicated to creating a collaborative environment demonstrating excellence in:

- Teaching and learning
- Research and creative activity
- Professional and civic engagement
- A commitment to diversity

Vision: The vision of the Indiana University Department of Physical Therapy is to excel as a locally, nationally, and internationally recognized leader in physical therapy education, research and civic engagement.

IU SHRS Dual Degree Objectives:

1. Integrating the two curriculums over the course of the entire educational curriculum reinforces didactic content from the entry program with application in the research laboratory, leading to potentially meaningful translational research questions and potential PhD dissertation topics.
2. Equivalences for up to 30 credits of DPT curriculum to satisfy requirements in the PhD program will shorten the period of PhD training without compromising the quality of either program.
3. Building momentum from both mentorship and scholarship through a continuous DPT/PhD program helps to ensure completion of both degrees within a reasonable period of time and shorter than if executed separately.

Although the list of current dual programs is brief, it is weighed towards the top programs being visionaries and leaders of the physical therapy profession. Below is a list of institutions categorized by the Carnegie Classification of Institutions of Higher Education that currently administer a dual program. Further, the Physical Therapy program’s US News and World Report (USNWR) ranking is identified in parentheses. While there are limitations in how the USNWR rankings are calculated, they provide an anchor point of identifying which programs are respected, established and are contributing to the development of medical scientists in the field of rehabilitation.

| Current Dual Degree Programs | | |
|-------------------------------------|--|---|
| R1 Highest Research Activity | R2 Higher Research Activity | R3 Moderate Research Activity |
| Emory/Georgia Tech (5) | Indiana University-Purdue University at Indianapolis (53) | Texas Women’s University (28) |
| Northwestern University (6) | Rutgers University- Newark (36) | |
| Ohio State University (10) | University of Toledo (164) | |
| Temple University (53) | University of Vermont (53) | <u>Not Indexed (R system)</u> |
| University of Delaware (1) | University of Maryland-Baltimore (28) | Medical University of South Carolina (28) |
| University of Illinois- | | |

| | | |
|-----------------------------------|--|--|
| Chicago (15) | | |
| University of Iowa (6) | | |
| University of Kansas (20) | | |
| University of Kentucky (28) | | |
| University of Minnesota (20) | | |
| University of North Carolina (15) | | |
| University of North Texas (101) | | |
| University of Pittsburgh (1) | | |
| University of South Carolina (40) | | |
| Washington University (4) | | |

B. State Rationale

In the state of Indiana there are three accredited physical therapy education programs: Indiana University, University of Indianapolis, and the University of Evansville. Additionally, Trine University (in Fort Wayne), Indiana State University, and Indiana Wesleyan University have programs in the accreditation process. IUSB is also considering developing a joint program with the Indianapolis campus. According to the Commission on Accreditation of Physical Therapy Education Programs the program director and 50% of the core faculty must have academic doctoral degrees. Experience in the School of Health and Rehabilitation Sciences has shown that these individuals are in short supply and highly sought. This joint degree program allows Indiana University to provide the needed dually qualified individuals to these existing and developing programs.

Introduction

The proposed program is a simple extension of two existing programs. Item I below is the existing bulletin copy of current PhD curriculum. Item II is the proposed bulletin copy for the joint degree program. The two programs are identical except for the Concentration. The joint degree program accommodates up to 30 credits of the DPT in the concentration. This has been captured by the inclusion of a Physical Therapy Specialization within the existing concentrations.

I. Current Curriculum (Existing bulletin copy)

The 90 credit hours for the Ph.D. are distributed as follows:

- A. Health and Rehabilitation Sciences Core Curriculum (12 credits in required courses)
 - Rehabilitation Theories and Applications (3 credits)
 - Theories of Health Promotion and Disease Prevention (3 credits)
 - Rehabilitation Services in Healthcare Systems and Delivery (3 credits)
 - Teaching Practicum within area of specialization (3 credits)

- B. Health and Rehabilitation Sciences Concentration (30 credits)

Students will select one of the three areas of concentration identified by the Institute of Medicine. Areas of concentration include:

 - Pathophysiology and Impairment
 - Functional Limitations
 - Health Services

- C. Research Core (42 credits)
 - Statistics and Research Design courses (9 credits)
 - Techniques of Effective Grant Writing (3 credits)
 - Writing for Publication (3 credits)
 - Research Ethics (1 credit)
 - Research Practicum within concentration (6 credits)
 - Doctoral Seminar in Health and Rehabilitation Sciences (1 credit)
 - Dissertation to include proposal in Health and Rehabilitation Sciences (19 credits)

- D. Electives (6 credits)

II. DPT-PhD Joint Curriculum (Proposed bulletin copy to be added)

- A. Health and Rehabilitation Sciences Core Curriculum (12 credits in required courses)
 - Rehabilitation Theories and Applications (3 credits)
 - Theories of Health Promotion and Disease Prevention (3 credits)
 - Rehabilitation Services in Healthcare Systems and Delivery (3 credits)
 - Teaching Practicum within area of specialization (3 credits)

- B. Health and Rehabilitation Sciences Concentration (30 credits)

Students will select one of the three areas of concentration identified by the Institute of Medicine. Areas of concentration include:

 - Pathophysiology and Impairment

- Physical Therapy Specialization
- Functional Limitations
 - Physical Therapy Specialization
- Health Services
 - Physical Therapy Specialization

C. Research Core (42 credits)

Statistics and Research Design courses (9 credits)

Techniques of Effective Grant Writing (3 credits)

Writing for Publication (3 credits)

Research Ethics (1 credit)

Research Practicum within concentration (6 credits)

Doctoral Seminar in Health and Rehabilitation Sciences (1 credit)

Dissertation to include proposal in Health and Rehabilitation Sciences (19 credits)

D. Electives (6 credits)

III. Physical Therapy Specialization Examples

A. Musculoskeletal Rehabilitation

| Course | Credits |
|---|---------|
| D850 – Gross Anatomy | 8 |
| P531 Clinical Physiology, Pathophysiology and Pharmacology I | 5 |
| P535 Clinical Physiology, Pathophysiology and Pharmacology II | 5 |
| P541 - Musculoskeletal Practice Patterns I | 4 |
| P622 - Musculoskeletal Practice Patterns II | 4 |
| Concentration Elective | 3 |
| Concentration Elective | 3 |

B. Neurologic Rehabilitation

| Course | Credits |
|---|---------|
| D852 Neuroscience & Clinical Neurology | 5 |
| P641 Neurorehabilitation I | 4 |
| P642 Neurorehabilitation II | 4 |
| P533 Lifespan Motor Development & Motor Control | 2 |
| P534 Introduction to Motor Sciences | 2 |
| P531 Clinical Physiology, Pathophysiology and Pharmacology I | 5 |
| P535 Clinical Physiology, Pathophysiology and Pharmacology II | 5 |
| Concentration elective | 3 |

C. Other Potential Physical Therapy Specializations

- a. Pediatric Rehabilitation
- b. Cardiac Rehabilitation
- c. Geriatric Rehabilitation
- d. Integumentary Care

| RESEARCH (24 CREDIT HOURS for a combined total with dissertation of at least 42 credits hours) | CREDIT HOURS | TERM PLANNED | TERM COMPLETED | GRADE |
|---|---------------------|---------------------|-----------------------|--------------|
| GRAD – N802 Techniques of Effective Grant Writing OR | 3 | | | |
| SHRS – W680 Independent Study for Grant Writing | | | | |
| NURS – W540 Writing for Publication OR | 3 | | | |
| SHRS – W680 Independent Study for Publication Writing | | | | |
| SHRS – W520 Critical Inquiry and Research Ethics (3 credit hours) OR | 3 | | | |
| GRAD – G504 Intro to Research Ethics | | | | |
| SHRS – W670 Research Practicum within concentration (6 credit hours) | 6 | | | |
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| | | | | |
| <i>Sub-total</i> | 24 | | | |

| DISSERTATION (18 CREDIT HOURS) | CREDIT HOURS | TERM PLANNED | TERM COMPLETED | GRADE |
|---|---------------------|---------------------|-----------------------|--------------|
| SHRS – W690 Dissertation Proposal in Health & Rehabilitation Sciences | | | | |
| SHRS – W690 Dissertation Proposal in Health & Rehabilitation Sciences | | | | |
| SHRS – W690 Dissertation Proposal in Health & Rehabilitation Sciences | | | | |
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| SHRS – W692 Dissertation in Health & Rehabilitation Sciences | | | | |
| SHRS – W692 Dissertation in Health & Rehabilitation Sciences | | | | |
| SHRS – W692 Dissertation in Health & Rehabilitation Sciences | | | | |
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| <i>Sub-total</i> | 18 | | | |
| FINAL RESEARCH & DISSERTATION TOTAL | 42 | | | |

Notes: (comments go here)

TOTAL CREDITS TO DATE: $12 + 30 + 42 + 6 = 90$

Student Signature: _____ **Date:** ____/____/____

Advisory Committee Signatures

| Name | Signature | Date |
|-------------|------------------|----------------|
| _____ | _____ | ____/____/____ |
| _____ | _____ | ____/____/____ |
| _____ | _____ | ____/____/____ |

Department Chair/Graduate
Advisor Signature: _____ **Date:** ____/____/____
Dr. Brent Arnold