

Curricular Affairs Committee of the Faculty Senate

MEMO

To: The UVM Faculty Senate
From: Curricular Affairs Committee of the Faculty Senate, Laura Almstead, Chair
Date: October 7, 2016
Re: Approval of a proposal for a new PhD in Human Functioning and Rehabilitation Science submitted by the College of Nursing and Health Sciences in conjunction with the Graduate College

At its meeting on October 6, 2016, the Curricular Affairs Committee unanimously approved the action recommended in the following memo.

The Curricular Affairs Committee unanimously approved a proposal for a PhD in Human Functioning and Rehabilitation Science (HF&RS) submitted by the College of Nursing and Health Sciences (CNHS) in conjunction with the Graduate College. If approved by the Faculty Senate and Board of Trustees, the program will be offered beginning Fall 2017.

Program Description and Rationale

The proposed PhD in HF&RS emphasizes interprofessional education in human functioning and rehabilitation related to posture, balance, mobility, hearing, speech, language, physical activity and exercise. This program is translational in nature as it focuses on understanding the spectrum of human function from the basic physiological function of cells and body systems to overall physical capability. These complex human functions and behaviors are unified by the common theme of human motor performance.

The founding principles of the proposed PhD program are based on the movement in health care toward the dynamic systems approach of the World Health Organization's International Classification of Functioning, Disability and Health (the ICF model). Specifically, this model considers health at three levels: 1) status of body structures and functions at the molecular, cellular, and organ systems levels; 2) ability of the individual to participate in human activities and assume societal roles; and, 3) physical and social aspects of the environment that support the health of individuals and populations. As an interprofessional program, students will be expected to achieve competencies in the areas of research, interprofessional content, teaching, and policy. Reaching the level of integrative thinking required to reach the competency goals of the program requires a sufficient background and research experience. Thus, the newly proposed PhD will primarily recruit students with at least a Master's level degree in a health-related field.

Justification and Evidence for Demand

Current educational, research, and societal needs indicate a significant demand in the region and throughout the country for a program of this type.

Educational Needs: At present, there is a lack of PhD trained scientists and academic faculty in core fields including kinesiology, exercise science, and communication science. Data from the Bureau of Labor Statistics projects growth over the next ten years in post-secondary educators in health specialties, nursing, and communication science. Many of the researchers currently in the field work in isolated sub-disciplines and not in an interprofessional manner. There is then demand not only for PhD scientists but PhD scientists with experience in interprofessional research. Thus, there is a need for programs like the newly proposed PhD in HF&RS to train people that would be qualified for these positions.

Research & Societal Needs: Motor performance and communication are critical to human behavior and our ability to participate in society. Human functioning, communication, and physical activity behaviors represent pervasive concerns associated with health conditions affecting cellular, neurological, musculoskeletal, psychological, and cardiovascular functions. These conditions represent significant health concerns due to their collective prevalence in society as well as their associated costs, lost productivity, and effects on participation in society. Consequently, these health conditions represent research priorities of several national funding agencies. The proposal included several examples of funding opportunities specifically focused on interprofessional rehabilitation research and training. Thus, the new PhD in HF&RS would position the University well to address research needs in an area with significant societal impact and to be competitive for project awards, training program grants, and collaborative or center grants.

Relationship to Existing Programs

The new PhD in HF&RS unique compared to existing UVM programs. It will involve collaboration between all Departments in CNHS. Additionally, it will tap into existing curricular resources in Units across the University including the Graduate Program in Clinical and Translational Science (CTS) and the Departments of Neurological Sciences, Psychological Sciences, and Nutrition and Food Science. Agreements have been established with all of these programs/departments that will allow a truly interprofessional educational experience and prevent duplication of resources. The collaborative nature of the newly proposed PhD will also provide opportunities for new interprofessional research endeavors and support existing relationships.

Nationally, there are few, if any, interprofessional PhD programs in areas related to human functioning and rehabilitation science. There are PhD programs at other institutions with a focus on interprofessional health sciences. However, the proposed PhD in HF&RS represents a unique opportunity in that it offers an integrated curricular and research experience focused on understanding interactions of body dysfunctions with personal and environmental factors that jointly affect activity performance and societal participation. Combining these fields using the lens of the ICF will enhance shared curricular goals of the participating Departments, focus on common methodological techniques, and foster interprofessional research in the development of new knowledge with a holistic view of health and wellness. The proposed PhD in HF&RS also differs from programs at other institutions in that it traverses traditional silos that have separated scientists in movement science, communication sciences and disorders, physical activity and exercise behavior and separated scientists engaged in impairment-based and interventional research approaches. The proposed PhD will set UVM apart from other institutions by advancing research and its translation with a deeper understanding of the physiological, environmental, and societal interactions that affect human activity and life participation.

Curriculum

The program will consist of a two-year pre-candidacy stage, during which students will complete core coursework (detailed in the table below), identify research mentors, and gain broad experience in both

curricular and research endeavors. Each aspect of this pre-candidacy education will facilitate interprofessional education. Students will (a) engage in core courses that expose them to methods that span impairment, activity, and participation based research across foci of cellular and molecular physiology of body systems, movement science, communication sciences, and physical activity and exercise behavior; (b) select courses of interest that span at least two of the foci; (c) participate in research rotations, either with a specific professional focus or an inter-professional focus, that span at least two of the foci; and (d) select two research co-mentors for their dissertation work that span at least two of these foci.

Although the proposed PhD is designed for students that have obtained at least a Master’s level degree or the equivalent, exceptional students with Bachelor’s degrees may be accepted. These students will be required to complete at least 24 graduate level credits that span a minimum of two areas within CHNS. Upon successful completion of these courses, up to 12 of these credits will be applied to the elective requirements for the PhD. For students entering the program with a graduate degree, 12 credits of appropriate electives will be accepted in transfer.

Following a qualifying examination, which involves a research proposal written in the form of a grant proposal and an oral defense of this proposal, all students will complete 20 credits of original dissertation research (HFRS 491) and write a formal dissertation. The dissertation format will consist of three publishable papers (at least one of which has been submitted for publication) for which they are first author, with integrative introduction and conclusion chapters. Students will also be required to teach at least one course under the mentorship of a faculty member, or to serve as a teaching assistant for at least one course and mentor/co-mentor an undergraduate or master’s degree research project.

In total, 76 credits are required for the PhD (12 of which are transfer credits) for students entering with a graduate degree and 88 credits for students entering with a bachelor’s degree.

Required Courses

Number	Name	Credits
HFRS 401*	Topics & Measurement of Human Functioning and Rehabilitation Science	3
HFRS 402*	Applying the ICF Model to Human Functioning & Rehabilitation Science	3
HFRS 430*	Seminar and Practicum in Health Professions Teaching	3
HFRS 450*	Professional Writing and Grantsmanship	2
EDLP 409	Applied Educational Research	3
CTS 301	Designing Clinical & Translational Research (on-line)	3
CTS 310	Conducting Clinical & Translational Research	3
CTS 315	Reporting Clinical & Translational Research	3
CTS 320	Analyzing Clinical & Translational Research	3
CTS 325	Multivariate Analysis of Clinical & Translational Research	3
PH 301	Health Policy	3

*New course. All courses have been submitted in Course Leaf. HFRS 401, 402, and 430 have been approved to the level of the Provost; HFRS 450 has been approved to the level of the CNHS Dean.

Students will also be required to take 24 credits of electives chosen from a substantial list that includes courses in Communication Sciences and Disorders (>15), Physical Therapy (7), Graduate Nursing (3), Psychological Science (4), Neuroscience (4), Nutrition and Food Science (3), Clinical and Translational Science (2), Cell

Biology (20, Medical Laboratory Science (5), Public Health (3), Health (2), and Leadership and Policy Studies (1). Students will be allowed to transfer up to 12 graduate credits in relevant fields towards these electives.

As noted previously, it is expected that students achieve competency in the areas of research, interprofessional content, teaching and quality. Students will demonstrate their achievement by:

- › Developing and submitting a research proposal for an internal or external grant competition
- › Dissemination results from scholarly work in which the candidate has played a significant role through oral presentation at one or more professional meetings
- › Publishing least one peer reviewed publication on which they are first author
- › Teaching at least one course under the mentorship of a faculty member, or serve as a teaching assistant for at least one course and mentor or co-mentor an undergraduate or master's degree research project
- › Analyzing a delivery system or policy process affecting health and human performance of individuals with a selected health condition

Admission Requirements and Process

Applicants are expected to have a post-baccalaureate degree at or above the Master's level in kinesiology, movement science, exercise science, exercise physiology, communication sciences and disorders, nursing, physical therapy, occupational therapy or related area. Exceptional students holding a BS in a relevant field may be accepted. For students who have already completed a graduate degree, the primary factors considered will be previous research experience, statement of purpose, and letters of reference. Transcripts will be used to verify previous degrees. GPAs and GREs will be used only to differentiate between otherwise equally qualified students. For students entering the program with a BS, evaluations will be based upon the applicant's grade point average, scores on the Graduate Record Exam, previous research experience, a statement of purpose for graduate study, and letters of reference. Final decisions to offer a position will be based upon the personal interview. This interview also offers the program a means to recruit applicants by providing tours of the research facilities, allowing prospective students to meet enrolled students and faculty, and familiarizing applicants with Burlington.

Anticipated Enrollment and Impact on Current Programs

The proposers anticipate no more than 15 to 25 total students, with approximately five students entering per year. With the exceptionally large list of courses available as electives it is expected that no more than one or two students will be in any single course in any year.

Advising

Initially, all students will be assigned a Doctoral Program Committee (three program faculty plus the Program Director), which will advise students in the development of their program of study and to track their progress throughout their graduate career. Once students have identified a dissertation topic, they will form a Dissertation Committee (at least four members of the graduate faculty), which must be approved by the Doctoral Program Committee. The Dissertation Committee will advise the student on the dissertation research and monitor progress toward the completion of the research project. Accordingly, the Dissertation Committee will meet with the student at least once a year.

Staffing Plan, Budget, and Resource Requirements

A 0.25 FTE administrative assistant will be required in the first year of admitting students and will increase to a 0.50 FTE in the third year as the program grows to provide support for administering and coordinating program events, recruiting, and general information. An HFRS Doctoral Program Director will be appointed by the CNHS Dean on five-year renewable terms through nomination (by faculty or self) with input from program faculty and agreement from the nominee as well as the Chairs of CNHS. The Doctoral Program Director will require a 20% (two course) workload adjustment.

Cost estimates for the first five years were detailed in the proposal. Up to five competitive, 12-month GRAs will be available to doctoral students enrolled in the program each year. They will receive tuition support for the duration of their program as long as they remain in good academic standing. Stipends will be provided for two years. After that time, it is expected that students will be funded through faculty research grants, doctoral student research grants, training grants, supplemental teaching, and opportunities for clinical practice or clinical supervision. Unfunded students may also enroll in the program, although potential revenue from unfunded students was not considered in the budgetary plan.

The proposers present a three-pronged approach to addressing funding including the ongoing pursuit of individual research and foundation grants, interdisciplinary and leadership training grants, and philanthropic gifts. Specific information was provided regarding current grant proposals that have been submitted by participating faculty, and interdisciplinary leadership training program grants for which the PhD program could be eligible. The program's unique interprofessional focus on human functioning and rehabilitation science would position faculty well for obtaining funding for individual training fellowships, investigator project awards, training program grants, and collaborative or center grants. They additionally indicate that they have made a proposal to a potential donor requesting support and are working with the UVM Foundation.

Growth in funding is expected through the initial five-year period of the program through research and foundation grants, training grants and philanthropic support. CNHS has identified an interdisciplinary doctoral program as a strategic priority; therefore, the College will allocate dollars to support this initiative for at least five new students each year by providing tuition remission for the length of their doctoral program and stipends for the first two years. There will also be opportunities for doctoral students in the third and fourth years to receive financial support through academic and clinical teaching needs that exist across the disciplines. Given the high demand for these professions in the community, some students may also be employed externally, including by the UVM Medical Center. Students not funded by GRAs or GTAs may be offered partial tuition scholarships.

Assessment Plan

The PhD program will be reviewed according to the Faculty Senate's Academic Program Review (APR) process. A list of metrics (e.g. number of publications by students, rate of students securing predoctoral fellowships, place of graduates) was included in the proposal. Additionally, the proposal included a specific plan for APR process and data that will be collected to compile the self-study.

Evidence of Support

Letters of support have been obtained from the Deans of the College of Agriculture and Life Sciences (Thomas Vogelmann), the College of Arts and Sciences (William Falls), the College of Education and Social Services (Cindy Gerstl-Pepin), and the Larner College of Medicine (Frederick Morin), as well as chairs representing

Medical Laboratory & Radiation Science (Paula Deming), Nursing (Rosemary Dale), and Rehabilitation and Movement Science (Jeremy Sibold). Curricular agreements have been developed that allow students into courses offered outside of CNHS (CLBI, CSD, CTS, EDLP, NFS, NSCI, and PSYS).

Summary

The proposed PhD program in Human Functioning and Rehabilitation Science is an academic, research-oriented interprofessional program. Collaborations with Departments across the University will provide the curricular resources necessary for an interprofessional educational experience without duplicating existing courses. The program will also facilitate generation of new knowledge that addresses research priorities among funding agencies by providing an academic training platform for research collaboration across the professional health disciplines represented by CNHS. It supports the strategic goal of both the University and CHNS to enhance our research infrastructure while requiring a minimum of resources.

The new PhD is unique in its truly interprofessional approach to educating students across disciplines. Further, the opportunities to engage in research from the molecular/cellular level to the practice and policy level to improve outcomes for patients with a variety of chronic conditions and disabilities is also a unique aspect of the program not seen across other graduate programs at the University. The ability to expose students to a spectrum of clinical translation of research across fields associated with human functioning and rehabilitation will position the proposed program at the University of Vermont among the highest-rated graduate programs available today.