REHABILITATION AND MOVEMENT SCIENCE, DOCTOR OF PHILOSOPHY (PH.D.) WITH A CONCENTRATION IN NEUROMUSCULOSKELETAL DYNAMICS [COLLEGE OF HEALTH PROFESSIONS]

Program goal

The Ph.D. in Rehabilitation and Movement Science is an interdisciplinary degree program developed through a collaborative partnership of the departments of Kinesiology and Health Sciences, Physical Therapy, and Physical Medicine and Rehabilitation. The mission of this collaborative degree program is to prepare applied scientists capable of approaching multifaceted health care, preventive medicine and rehabilitation initiatives from an integrative perspective and to prepare graduates to assume research, teaching and leadership positions within rehabilitation and movement science professions.

There are two program concentrations: exercise physiology and neuromusculoskeletal dynamics. The exercise physiology concentration prepares individuals to conduct research, direct external funding initiatives and teach in the area of exercise physiology, with particular focus on physical activity's impact on chronic disease states. The neuromusculoskeletal dynamics concentration prepares individuals for research, teaching and clinical initiatives associated with the identification and rehabilitation of movement disorders.

Student learning outcomes

At the completion of the program students will:

1. Demonstrate comprehensive foundational knowledge within his/her area of program specialization
2. Develop testable hypotheses and appropriate study designs to address relevant research questions in his/her area of program specialization
3. Develop the skills and abilities to collect and manage research data while ensuring ethical and responsible conduct of research
4. Develop the ability to analyze research data and subsequently interpret and synthesize results and draw appropriate conclusions
5. Demonstrate teaching effectiveness in the classroom and/or clinical environment
6. Disseminate research findings effectively in oral and/or written formats

VCU Graduate Bulletin, VCU Graduate School and general academic policies and regulations for all graduate students in all graduate programs

The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the VCU Graduate Bulletin as well as the **Graduate School website** and academic regulations in individual school and department publications and on program websites. However, in all cases, the official policies and procedures of the University Graduate Council, as published on the VCU Graduate Bulletin and Graduate School websites, take precedence over individual program policies and guidelines.

Visit the academic regulations section for additional information on academic regulations for graduate students.

Degree candidacy requirements

A graduate student admitted to a program or concentration requiring a final research project, work of art, thesis or dissertation, must qualify for continuing master's or doctoral status according to the degree candidacy requirements of the student's graduate program. Admission to degree candidacy, if applicable, is a formal statement by the graduate student's faculty regarding the student's academic achievements and the student's readiness to proceed to the final research phase of the degree program.

Graduate students and program directors should refer to the following degree candidacy policy as published in the VCU Graduate Bulletin for complete information and instructions.

Visit the academic regulations section for additional information on degree candidacy requirements.

Graduation requirements

As graduate students approach the end of their academic programs and the final semester of matriculation, they must make formal application to graduate. No degrees will be conferred until the application to graduate has been finalized.

Graduate students and program directors should refer to the following graduation requirements as published in the Graduate Bulletin for a complete list of instructions and a graduation checklist.

Visit the academic regulations section for additional information on graduation requirements.

Apply online at graduate.admissions.vcu.edu (http://www.graduate.admissions.vcu.edu)**.**

Admission requirements

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Ph.D.	Fall preferred	Applications received prior to Jan. 9 will be given priority consideration. Applications received following the deadline may be considered if space and resources are available.	GRE

In addition to the general admission requirements of the VCU Graduate School (http://bulletin.vcu.edu/graduate/study/admission-graduate-study/admission-requirements), applicants must:

1. Have completed at least one of a master's degree in a related area, 30 hours of post-baccalaureate work (e.g. course work at 500 level or greater) or a first-professional degree program
2. Provide official GRE score
3. Submit a curriculum vitae or professional resume indicating an applicant's educational and career experience as well as evidence of research potential

Admission decisions are made only on the basis of a completed application packet.

Applicants being considered for admission must complete an interview with a Ph.D. admissions committee representative and/or research faculty member with whom the student would like to work.

Degree requirements

In addition to general VCU Graduate School graduation requirements (http://bulletin.vcu.edu/academic-regs/grad/graduation-info), students pursuing the Ph.D. in Rehabilitation and Movement Science must successfully complete:

1. A minimum of 50 credit hours developed in conjunction with their advisers
2. Written and oral comprehensive examinations
3. All other university requirements of qualification for degree candidacy
4. Written dissertation based on a focused line of research
5. Oral defense of the dissertation

Curriculum requirements

Course	Title	Hours
Research core courses		
STAT 543	Statistical Methods I	3
or BIOS 543	Graduate Research Methods I	
STAT 544	Statistical Methods II	3
or BIOS 544	Graduate Research Methods II	
Select one of the following:		3
ALHP 761	Health Related Sciences Research Design	
EDUS 710	Quantitative Research Design	
HADM 761	Health Services Research Methods I	
HEMS 600	Introduction to Research Design in Health and Movement Sciences	
PSYC 636	Research Methods in Developmental Psychology	
Select one additional research design class of above or of the following:		3
ALHP 716	Grant Writing and Project Management in Health Related Sciences	
BIOS 553	Biostatistical Methods I	
BIOS 531	Clinical Epidemiology	
BIOS 571	Clinical Trials	
BIOS 572	Analysis of Biomedical Data I	
SBHD 610	Behavioral Measurement	
Core concentration		
REMS 611	Biomechanics of Human Motion	3
REMS 660	Neuromuscular Performance	3
REMS 665	Instrumentation in Motion Analysis	3
Approved electives (from list below)		9
Labratory rotations		
REMS 710	Research Techniques in Rehabilitation and Movement Science	3
Professional development course work		
REMS 690	Research Seminar in Rehabilitation and Movement Science (.5 credit-hour course repeated for a total of 3 credits)	3
REMS 793	Teaching Practicum in Higher Education	1
REMS 794	Research Presentation Seminar	1
Dissertation research		
REMS 798	Research in Rehabilitation and Movement Science	12
Total Hours		50

Approved electives

Course	Title	Hours
EPID 622	Maternal and Child Health	3
HEMS 601	Movement Physiology	3
PSYC 603	Developmental Processes	3
PSYC 614	Development in Infancy and Early Childhood	3
REMS 608	Advanced Musculoskeletal Sciences	3
REMS 612	Advanced Biomechanics	3
REMS 692	Independent Study	1-3
REMS 701	Advanced Exercise Physiology I	3
REMS 702	Advanced Exercise Physiology II	3
REMS 703	Cardiovascular Exercise Physiology	3
REMS 704	Psychobiology of Physical Activity	3
REMS 705	Metabolic Aspects of Physical Activity	3
REMS 706	Development and Motor Control	3

The minimum total of graduate credit hours required for this degree is 50.

Graduate program director

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Program website: sahp.vcu.edu/departments/pt/prospective-students/phd-programs/rehabilitation-and-movement-science (http://sahp.vcu.edu/departments/pt/prospective-students/phd-programs/rehabilitation-and-movement-science)