

## **Curriculum: Doctoral Specialization in Motor Control and Rehabilitation Requirements**

All PhD students in Motor Control and Rehabilitation are required to fulfill the equivalent of the existing Exercise Science MS program in Motor Control and Rehabilitation or in a closely-related field. Courses that fulfill this equivalent could include:

*Introductory Biostatistics*

*Intermediate Biostatistics*

*Mechanisms of Motor Skill Performance*

*Impairment of Motor Functions*

Students will complete an approved program of study consisting of 60 hours beyond the baccalaureate or a minimum of 30 hours beyond the master of science. Electives are to be completed in the student's specific area of emphasis. Students may fulfill the statistics and research design requirements through any of the following: biostatistics, epidemiology, psychology, statistics or education. The choice is contingent upon student interests and emphases and should be approved by the advisor. However, the curriculum must include an epidemiology course or one of the approved research methods courses with explicit epidemiology content.

Students with the aid of their advisor can develop a program of study that emphasizes developmental motor control and rehabilitation, lifespan motor control, geriatric motor control and rehabilitation, or any combination thereof. The plan of study must then be approved by division faculty and the graduate director. All students are required to complete course hours as follows:

- Exercise Science (12-18 hours)
- Research Methods/Statistics (6-12 hours)
- Electives (18-30 hours)
- Dissertation (12 hours)

## **Sample Motor Control and Rehabilitation Course Options**

The courses listed below are by no means exhaustive and can be supplemented with other courses approved by the faculty advisory committee.

### **Exercise Science**

- EXSC 563 - Physical Activity and the Physical Dimensions of Aging (3)
- EXSC 700 - Exercise and Public Health (3)
- EXSC 778 - Exercise and Childhood Obesity (3)
- EXSC 782 – Mechanical Analysis of Motor Skills (3)
- EXSC 831 - Mechanisms of Motor Skill Performance II (3)
- EXSC 832 - Research Practicum in Motor Learning/Motor Performance (3)
- EXSC 862 - Analysis of Motor Impairments (3)
- EXSC 863 - Physical Activity and the Aging Process (3)

### **Anatomy**

- ANAT 701 - Human Embryology and Gross Anatomy (8)
- ANAT 703 – Human Neuroanatomy (3)

### **Nursing**

- NURS 753 – Primary Care of Older Adults (3h)
- NURS 755 – Resorative Care of Older Adults (3h)

### **Physical Therapy**

- PHYT 750 – Orthopaedic Physical Therapy (4h)
- PHYT 751 – Orthopaedic Physical Therapy (4h)
- PHYT 762 – Neuromuscular Conditions (3h)
- PHYT 806 – Clinical Pathology-Differential Diagnosis (3h)
- PHYT 810 – Neuromuscular Assessment & Treatment (4h)
- PHYT 811 – Pediatrics and Orthotics (3h)

### **Psychology**

- PSYC 700 – Psychosocial Approaches to Gerontology (3h)
- PSYC 732 - Assessment in Clinical Neuropsychology (3h)
- PSYC 733 – Neuropsychology of Learning Disabilities (3h)
- PSYC 751 – Survey of Developmental Psychology (3h)

### **Medicine**

- MEDI 700 – Medical Aspects of Aging (3h)

### **Neuroscience/Psychology**

- PSYC 560 - Advanced Physiological Psychology (3h)
- BMSC 740 - Neuroscience (3h)
- PHPH 745 - Neurophysiology (3h)