

# REHABILITATION SCIENCE

---

## **RSD 6110 Rehabilitation Science Theory and Application I 3 Credits**

**Grading Scheme:** Letter Grade

Philosophical and theoretical foundations. History of the development of rehabilitation services and funding. Evolution of health care systems in the U.S.

## **RSD 6401 Skeletal Muscle in Aging and Disease, and Implications for Rehabilitation 3 Credits**

**Grading Scheme:** Letter Grade

Addresses the impact of aging and various diseases on skeletal muscle biology, the mechanisms therein, and preclinical (animal model) or clinical approaches to therapeutically treating the muscle to improve function.

**Prerequisite:** This course is open to all Rehabilitation Science PhD students. As such, admission to the RSD program is a prerequisite.

Graduate students from other programs are encouraged to register with prior permission of the instructor.

## **RSD 6410 Development and Evaluation of Rehabilitation Interventions to Promote Participation 3 Credits**

**Grading Scheme:** Letter Grade

Course focuses on non-pharmacological rehabilitation intervention approaches to reduce disability and promote participation. Examples of these approaches are therapeutic exercise, the use of technology, and behavioral approaches. Students will learn the spectrum of intervention development and evaluation: from conceptualization and manualizing to testing the intervention feasibility, efficacy, and effectiveness.

**Prerequisite:** CLP 6527C, EDF 6475, EDF 6403, HLP 6535, or an equivalent course in research design and methods at the graduate level. Students in good standing in the Rehabilitation Science Doctoral Program. Others must seek the instructor's permission.

## **RSD 6701 Matlab Foundations for Rehabilitation Science 3 Credits**

**Grading Scheme:** Letter Grade

This course introduces Matlab foundations to students to code, compute, analyze, and plot research data that are commonly collected in rehabilitation science studies. Students do not need to have prior experience in programming to be enrolled in class.

**Prerequisite:** This course is open to all Rehabilitation Science Ph.D. students. RSD students do not need prereq programming skills to take this class. Graduate students from other programs are encouraged to register with the prior permission of the instructor.

## **RSD 6710 Motor Control: Translating from Fundamental Research to Rehabilitation Practice 3 Credits**

**Grading Scheme:** Letter Grade

Defines fundamental concepts and theories related to motor control and movement science and discusses these concepts in the context of neurorehabilitation. The course also emphasizes atypical motor control functions and underlying neurophysiological mechanisms following disease/injury. Students will practice scientific writing and presentation skills through weekly in-class presentations.

**Prerequisite:** This course is open to all Rehabilitation Science PhD students. As such, admission to the RSD program is a prerequisite. Graduate students from other programs are encouraged to register with prior permission of the instructor.

## **RSD 6718 Neuroplasticity: A Foundation for Neurorehabilitation 3 Credits**

**Grading Scheme:** Letter Grade

Evidence for plasticity after injury or disease. Factors that influence recovery. Medical approach to enhancing recovery. Potential approaches in physical rehabilitation to facilitate and optimize plasticity.

## **RSD 6900 College Classroom: Teaching Process and Practice 3 Credits**

**Grading Scheme:** Letter Grade

Information and skills required for successful teaching faculty in college classroom.

## **RSD 6905 Individual Work 1-4 Credits, Max 12 Credits**

**Grading Scheme:** Letter Grade

Special project or research.

**Prerequisite:** Consent of adviser, and project approval.

## **RSD 6910 Supervised Research 1-5 Credits, Max 5 Credits**

**Grading Scheme:** S/U

Supervised Research

## **RSD 6920 Rehabilitation Science Journal Club 1 Credit, Max 5 Credits**

**Grading Scheme:** Letter Grade

Class critically evaluates published papers in broad fields related to Rehabilitation Science. Students present assigned reading including a brief summary of the rationale/background, methodology, results, and implications of the data. Students will learn to present research data to a diverse audience and how to receive and answer research questions.

**Prerequisite:** Open to all PhD students in Rehabilitation Science. Other graduate students are invited to register with permission of the instructor. However, the course is limited to 12 students.

## **RSD 6930 Special Topics in Rehabilitation Science 1-4 Credits, Max 9 Credits**

**Grading Scheme:** Letter Grade

Special Topics in Rehabilitation Science

**Prerequisite:** RSD 6705.

## **RSD 6938 Doctoral Seminar in Rehabilitation Science 1 Credit, Max 5 Credits**

**Grading Scheme:** Letter Grade

Students meet and interview national and international scientists studying rehabilitation to discuss key professional and scientific issues related to rehabilitation science. As part of this course, students attend and critique the Rehabilitation Science Seminars, complete seminal readings in visiting scientists' area of focus and moderate and participate in discussion.

**Prerequisite:** Open to all Rehabilitation Science PhD students. Other graduate students are invited to register with approval of the instructor.

## **RSD 6940 Supervised Teaching 1-3 Credits, Max 5 Credits**

**Grading Scheme:** S/U

Supervised Teaching

## **RSD 7752 Measurement Development for Health and Rehabilitation 2 Credits**

**Grading Scheme:** Letter Grade

Students will apply qualitative and quantitative approaches to develop and pilot a hypothetical measure relevant for health, rehabilitation, or public health. Students will apply concepts of measurement validity and reliability to design a construct and related items to measure individual, group, or population outcomes. Students will practice qualitative approaches for measurement development and gain knowledge of quantitative approaches to psychometric testing.

**Prerequisite:** PHC 6052 or CLP 6527C or equivalent.

## **RSD 7979 Advanced Research 1-12 Credits, Max 12 Credits**

**Grading Scheme:** S/U

Research for doctoral students before admission to candidacy. Designed for students with a master's degree in the field of study of for student who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy.

**RSD 7980 Research for Doctoral Dissertation 1-15 Credits**  
**Grading Scheme: S/U**  
Research for Doctoral Dissertation