## BIOENG/CLRES 3780: Human Factors of Aging Spring, 2023 3 credits

**Description**: The course focuses on how to translate research in new and improved medical devices or interventions to improve the lives of older adults. We focus on a human factors approach to translating research that considers the capabilities of the user to develop the solution. Characteristics of older adults relevant to usability will be developed in detail, with numerous real-life examples (successful and unsuccessful) provided. The course also considers FDA approval requirements for medical devices and evaluation methods for specific populations, in this case, older adults including those with age-associated disorders.

**Target audience**: The graduate-level course is designed as an introduction that can be taken be the broader research community, including clinicians, research scientists, post-doctoral associates/fellows and graduate students. The goal is to have students from a diverse background of expertise and interests to facilitate interactions. There are no prerequisites for the course, so people of all backgrounds and training can participate. Last year's inaugural class included investigators, clinicians and graduate students from Medicine, Rehabilitation Science, Nursing, and Engineering.

Why take this course? If you are interested in translational science, this course provides principles on how to design, develop and evaluate devices and interventions by considering the capabilities and limitations of the user. This is particularly useful when considering older adults with a wide range of sensory, motor, and cognitive abilities and variety of impairments.

**Instructors**: Mark Redfern, PhD is a Professor in the Department of Bioengineering with appointments in the School of Health and Rehabilitation Science and the School of Medicine. He has years of experience in aging research, human factors and ergonomics. Other instructors also participate, including Andrea Weinstein, PhD from Psychiatry, Riddhi Patira MD from Neurology, and Julie Faieta, PhD from Rehabilitation Science.

**Class Meets**: The class meets on Wednesday evenings, and accommodations can be made for busy schedules throughout the semester. The lectures will be recorded and posted on Canvas. There will be some hands-on learning in Schenley Place in the Human Factors Laboratory on the 3<sup>rd</sup> floor.

For more information, contact Dr. Redfern at mredfern@pitt.edu.