

Notice of Intent
M.S. in Rehabilitation Sciences & Technology
University of Wisconsin – Milwaukee

Institution, College, Area: University of Wisconsin – Milwaukee, College of Health Sciences, Department of Rehabilitation Sciences & Technology.

Name of the proposed program: Master of Science in Rehabilitation Sciences & Technology

Institutional Setting: The degree will be housed in the Department of Rehabilitation Sciences & Technology

Mode of Delivery: On-campus, face-to-face, hybrid, and online classes

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Program and Learning Outcomes

The M.S. in Rehabilitation Sciences & Technology is designed for students interested in helping individuals achieve health and wellness to support activity, participation, and performance through the interaction of human factors and human function. This degree will prepare students for an evolving job market within the rehabilitation, special education related services, occupational health, safety, and performance domains. Graduates will be prepared for professional careers in academic, clinical, government, sport/wellness, and industry environments. The degree will also provide a unique background and experience for students seeking to apply to graduate professional degree programs and/or advanced research-based graduate studies. The flexible degree builds a foundation of research methodological knowledge and then narrows into advanced knowledge of aging/development, assistive technology, cognition, communication, community health, human factors, musculoskeletal performance and injury, physiologic regulation of exertion, and/or psychosocial aspects of human physical performance. This base of knowledge is then applied into specialty areas that include human factors and injury prevention, performance psychology, and/or rehabilitation science/technologies.

The program will facilitate clinical and translational knowledge, as well as design thinking and inquiry through traditional research experiences and/or real-world projects and community engaged learning. The curriculum reflects a blend of research and practice-oriented coursework which will leverage exploration and innovation through the delivery of traditional didactic and experiential learning through instructional laboratories, community engagement, fieldwork, and degree-related service. The program directly builds upon academic and professional experiences of faculty and instructors to produce graduates who contribute and translate research and design to solve real world challenges.

The primary outcomes of the program are:

1. Prepare graduates to contribute to, and lead innovative methods, interventions, and approaches to promote health, development, occupation, performance and rehabilitation of persons across the lifespan.
2. Improve the quality of life for individuals who may benefit from physical, cognitive, communication, psychosocial, and technical adaptations across the lifespan.
3. Apply scientific theories of development, movement, occupation, psychosocial function, rehabilitation, and universal design to enhance quality of life and performance for individuals with disabilities.
4. Identify and explain how physical, psychosocial, and technical systems interact to influence health, development/aging, performance, and/or injury concerns.
5. Identify and explain the philosophical, theoretical, and empirical frameworks used by professionals to address health, development/aging, performance, and/or injury concerns.
6. Use assessment and monitoring to develop solutions to meet the health, development/aging, performance, and/or injury concerns of a variety of populations and/or communities.

7. Develop the skills to advance the knowledge and practices within rehabilitation professions, occupations, industry, and other performance domains (e.g., performing arts, sport).

Contents of the Program

The degree will be 27 credits and have three components: (i) Core Courses (9 credits), (ii) Foundation Courses (9 credits), and Specialization Courses (9 credits). Four specialty areas will be offered, based upon School of RST expertise; those are: (a) Assistive Technology and Accessible Design (ATAD). (b) Human Factors Innovations (HFI), (c) Intervention and Consultation in Performance Psychology (ICPP), and (d) Rehabilitation Sciences (RS). Most students will complete a capstone experience; however, a thesis option will be available for students whose career goals require one.

Students will come prepared with knowledge in statistics (3 credits), laboratory-based natural sciences (4 credits), and psychology (3 credits). These pre-requisites will be verified through transcripts or example coursework. The anticipated specialty areas are described below.

Assistive Technology and Accessible Design (ATAD):

This track is targeted toward students who wish to pursue careers implementing technology to improve the lives of people with disabilities. Students in this track will engage in learning and research related to universal design, assistive technology in a variety of settings (home, hospital, work) and populations (pediatrics, veterans, older adults). It provides a strong foundation for those seeking a terminal degree (OT, PT, AT), Advanced graduate study in rehabilitation sciences (PhD). The ATAD track also prepares interested graduates for the Assistive Technology Professional (ATP) licensing exam facilitating work directly in wheelchair and augmentative and alternative communication companies or other AT manufacturing and distribution companies.

Human Factors Innovations (HFI):

This track is targeted toward students interested in helping individuals (with and without disabilities) achieve peak occupational health and performance through the interaction of human factors and human function. This track is aimed at students who seek an entrepreneurial component to their educational learning experience and provides a strong foundation for those seeking a terminal professional degree (i.e., Athletic Training, Occupational Therapy, Physical Therapy) or advanced graduate study in rehabilitation sciences (e.g., PhD).

Intervention & Consultation in Performance Psychology (ICPP):

This track is targeted toward students interested in obtaining the theoretical and applied background necessary to facilitate psychosocial aspects of performance among a diverse clientele. In this track, students will learn how to work alongside other professionals to facilitate performance in various domains (e.g., sport, performing arts, military, business, medicine). Students in this track will have the opportunity to complete some of the didactic coursework and mentored hours required for the Certified Mental Performance Consultant (CMPC) designation established by the Association of Applied Sport Psychology (AASP).

Rehabilitation Sciences (RS):

This track is targeted towards students who wish pursue careers that require or strongly benefit from rehabilitation science knowledge but that do not require a professional practice license, or who are seeking knowledge in rehabilitation science beyond that available at the undergraduate level and/or those who require a masters-level degree for employment. or pursuit of a doctoral degree (e.g., PhD). Students in this track will be engaged with investigating basic mechanisms, intervention approaches, community health, and health policy to acquire the interdisciplinary knowledge and skills to creatively address complex health and health system problems to promote function and reduce disability.

Existing and Anticipated Resources

The Department of Rehabilitation Sciences & Technology has 14 tenured and tenure-track faculty and 13 instructional academic staff with advanced, terminal degrees. Degrees and expertise cross the areas of: Physical Therapy (PT), Occupational Therapy (OT), Athletic Training (AT), Performance Psychology, Therapeutic Recreation, Assistive Technology and Accessible Design, Ergonomics, Biomedical Engineering, and Industrial Engineering. These faculty deliver the following degrees and certificates: Doctor Physical Therapy, Doctor of Occupational Therapy,

Master of Science in Athletic Training, Master of Science in Occupational Therapy, Certified Mental Performance Consultant (CMPC) Certificate (graduate), Assistive Technology and Accessible Design (ATAD) Certificate (graduate), Therapeutic Recreation Certificate (undergraduate), and Bachelor of Science in Occupational Science & Technology.

Accreditation

The department maintains accreditation of its professional degrees in AT, OT, and PT, as well as for the CMPC and ATAD certificates. No accreditation will be sought for this MS in Rehabilitation Sciences & Technology degree.

Alignment with Institutional Mission

The proposed program responds to the following aspects of UWM Select Mission Statement, which can be found at <https://uwm.edu/mission/>:

To fulfill its mission as a major urban doctoral university and to meet the diverse needs of Wisconsin's largest metropolitan area, the University of Wisconsin–Milwaukee must provide a wide array of degree programs [...]. Fulfilling this mission requires the pursuit of these mutually reinforcing academic goals:

- *To develop and maintain high quality undergraduate, graduate, and continuing education programs appropriate to a major urban doctoral university.*
 - *To attract highly qualified students who demonstrate the potential for intellectual development, innovation, and leadership for their communities.*
 - *To further academic and professional opportunities at all levels for women, minority, part-time, and financially or educationally disadvantaged students.*
 - *To promote public service and research efforts directed toward meeting the social, economic and cultural needs of the state of Wisconsin and its metropolitan areas.*
 - *To provide educational leadership in meeting future social, cultural, and technological challenges.*

Within the Department and College, this program aligns well with the general missions of all our degree-programs to provide a diverse body of students with exceptional opportunities to pursue scholarly knowledge and development and to become leaders in the communities and organizations.

Need for the Program

The Department of Rehabilitation Sciences and Technology currently has only professional graduate degrees in Athletic Training, Occupational Therapy, and Physical Therapy. These degrees cannot serve students who need rehabilitation sciences knowledge but are not seeking employment in the licensed professions. In the last academic year alone we were forced to turn away six graduate students seeking this type of education.

Occupational health and performance is a holistic domain that includes traditional areas of practice, such as occupational safety. As an emerging discipline area, this degree would position RST and UWM to be leaders in the development of the discipline and would provide our future graduates opportunities to be early leaders in their organizations.

Rehabilitation science is a broad field with ample employment opportunities. Adding this degree will help RST to provide graduate-level education in rehabilitation science to those working professionals who need the knowledge to further their careers. Perhaps more importantly, this degree will provide a 'soft-start' option for students who intend to pursue a professional program (e.g., Occupational Therapy) but who might struggle with a sudden shift from undergraduate work to high-intensity, full-time professional program education. Similarly, as the requirements for our professional degrees continue to increase and as students life circumstances become increasingly complicated, this degree will provide an urgently needed alternative for students who suddenly find

they cannot complete their professional degree to become a licensed practitioner, and for whom an alternative degree option will support employment opportunities

Intervention & Consultation in Performance Psychology is an established yet relatively young field. This master's degree will allow RST to serve students interested in this area of study and for whom our current Certificate offering (Certified Mental Performance Consultant) does not provide adequate depth.

Similar Programs:

Marquette has a Master of Science in Exercise and Rehabilitation Science that is designed to broadly prepare students for continued clinical research and/or increased competitiveness of application for professional programs such as Physical Therapy or Medicine. The Marquette program does serve a partly similar purpose as the proposed MS in RST, but it does not have the specialty tracks that are career focused. There is an MS in Rehabilitation Science offered at Concordia University Wisconsin, but the degree is for international students who hold a BS in Physical Therapy or Occupational Therapy and who need to hold an MS degree for professional practice in the United States.

In the larger region, the University of Minnesota has an MS in Rehabilitation Science that is structured similarly to Marquette's. Nationally, Northeastern University has an MS in Human Movement and Rehabilitation Sciences that is structured similarly to the proposed MS in RST insofar as the Northeastern curriculum is flexible so that it can serve student needs as they reach towards the wide array of Rehabilitation Science focused careers.