Welcome

Exercise Physiology is a dynamic and multi-faceted career choice for energetic professionals who want to make a difference in the health and wellness of others, within non-clinical or clinical environments.

Academic Program

The Graduate Exercise Physiology degree program at Central Michigan University is designed to prepare students for several professional avenues. Health and Fitness practitioners will work in environments such as fitness facilities and community organizations. Strength and conditioning specialists work with athletes for performance enhancement on professional, intercollegiate, or secondary school athletic programs. Clinical physiologists offer medically supervised exercise programs for populations with morbidities such as cardiovascular or pulmonary. Many graduates have gone on to pursue terminal doctoral degrees in the exercise sciences and many other students have used the master’s program as a launching point for admission into post-graduate allied health professions such as physician assistant, physical therapists, and medical school.

The Master of Arts program takes about two years to complete. Each student in the M.A. program is required to complete a minimum of 30 graduate credit hours, which include a required core of courses, specialization courses, and elective and cognate courses, specialization courses, and elective and cognate courses. Credit hours in the core vary depending on whether a thesis (six credits) or independent study (three credits) is selected.

Required Courses I
- Cardiovascular Physiology
- Motor Learning and Human Performance
- Physiology of Exercise
- Research Methods for Health, Physical Education and Sport, Health and Recreation

Required Courses II
- Biostatistics
- Statistics for Physical Education and Sport, Health and Recreation

Required Courses III (Select One)
- Independent Study
- Thesis

Electives

Students work closely with faculty advisors to carefully select the appropriate electives from a variety of approved courses. Additional requirements include:

1. Students must consult with an advisor prior to taking a 500-level course.
2. Students must present 15 or more semester hours of classes at or above the 600-level for this degree.
3. A maximum of six hours of credit in practicum, field study, and internship courses may be applied toward the completion of this degree program.
Core Faculty

Dr. Jeffrey Edwards ... received his PhD from Indiana University in Human Performance with an emphasis in the areas of physiology and human performance. His early research work addressed measurement of energy expenditure of physical activities using respiratory calorimetry and stable isotopic methods of measuring energy metabolism. Currently, Dr. Edwards’ research has focused on neuromuscular investigations ranging from orthostatic muscle inhibition to measurement of neuromuscular excitability changes during training. Dr. Edwards also co-developed a novel and reliable method for electrically inducing muscle cramps which allows for further laboratory investigations into the etiology and treatment of exercise associated muscle cramping.

Dr. Karen V. Lomond ... received her Ph.D. from McGill University in Montreal, Quebec. Dr. Lomond’s research focuses on understanding the interaction between posture and movement coordination in persons with and without disease and injury. Dr. Lomond’s work is based in the tools of biomechanics - using electromyography, 3-D kinematics/kinetics and rigid body modeling to track the coordination of movement in the laboratory. Populations of interest include primarily those with chronic musculoskeletal pain (i.e. non-specific low back pain and neck/shoulder pain) and populations with neurological disorders (i.e. Multiple Sclerosis or Essential Tremor). Her work also aims to better understand movement variability and how movement patterns may contribute to or exacerbate disease/injury. A long-term goal is to translate this knowledge of posture and movement coordination patterns into evidence-based diagnostic exams and clinical tools to better characterize and track patient movement patterns over the course of treatment.

Dr. Rachael Nelson ... received her Ph.D. from the University of Michigan. Dr. Nelson is interested in examining the benefits of physical activity and exercise on the prevention and treatment of Type 2 Diabetes and Gestational Diabetes in order to improve on the quality of life throughout the lifespan.

Dr. Paul O’Conner ... received his Ph.D. from Dublin City University, Ireland. Dr. O’Conner’s research examines the effects of acute and chronic exercise on the production of circulating microparticles, a potential novel marker of cardiovascular disease. In addition, Dr. O’Conner has examined the role of high-intensity interval training in improving aerobic fitness in clinical and sporting populations compared to traditional low volume endurance training. High-intensity interval training is an efficient method of improving aerobic fitness in team sports, while maintaining speed and power, leaving more time for technical and tactical development. Dr. O’Conner has been involved in research using technologies such as heart rate systems, metabolic systems, GPS, accelerometers, and Dartfish to analyze the physiological demands and movement patterns in Gaelic Games. The results are then used to inform best practices for training.

Dr. William Saltarelli ... received his Ph.D. from the University of Toledo. Dr. Saltarelli’s research at CMU has centered in two diverse areas. The first is evaluating cardiovascular disease risk factors in children and interventions to help children minimize the impact of these factors later in life. Published research has included documenting CVD risk factors in mid-Michigan children and the relationships among factors. Present studies include novel healthy heart interventions for children. In addition, he is conducting ultrasound evaluations of brachial and carotid arteries health using the flow mediated dilation and intima media techniques. These techniques have been shown to detect early blood vessel changes suggestive of atherosclerosis. A second area of research is evaluating novel teaching/learning methods in human anatomy. In collaboration with Michigan State University, Dr. Saltarelli is evaluating the effect of cooperative learning and the use of computer software in human anatomy courses.

Dr. Naveen Sharma ... received his Ph.D. from Case Western Reserve University. Dr. Sharma is interested in the physiology of aging, specifically how cellular signaling pathways are affected by this process, and how interventions such as exercise and calorie restriction can improve age-related detriments.

Dr. Michal Zuhl ... received his Ph.D. from the University of New Mexico. Dr. Zuhl’s research includes the role of aerobic exercise in activation and regulation of cellular stress response pathways. These pathways are important modulators of the pro-inflammatory responses to environmental, bacterial, and pathological stressors. Through human exercise and cell culture experimental models, insight is being gained into the benefits of exercise on the inflammatory process. The goal is to further establish aerobic exercise as treatment for patients suffering from chronic inflammatory diseases.

Admission Requirements

To be considered for admission to the Master of Arts in Exercise Physiology degree program, a student must meet the general requirements for admission to the CMU College of Graduate Studies.

Based upon the undergraduate GPA, resume, and professional experience, the candidate may be accepted as a regular or conditional student. For regular admission, the minimum undergraduate GPA must be 3.0 or higher on a U.S. 4.0 scale.

At least 20 or more credit hours of exercise science, physical education, or health-related courses.

Application Deadlines
April 1 (Fall Semester)
August 1 (Spring Semester)
February 1 (Summer Sessions)

Apply Online
http://apply.cmich.edu

For More Information
Inquiries regarding the M.A. in Exercise Physiology at CMU should be addressed to:

Director, Exercise and Health Sciences Division
Dr. Jeffrey Edwards
Health Professions Building 2219
Central Michigan University
Mt. Pleasant, MI 48859

Phone: (989) 774-3541
Email: edwar4je@cmich.edu

Visit our website at:
chp.cmich.edu/hsc

The MA in Exercise Physiology program is housed within The Herbert H. & Grace A. Dow College of Health Professions.

CMU is an AA/EO institution, providing equal opportunity to all persons, including minorities, females, veterans and individuals with disabilities. See www.cmich.edu/aaeo