Health and Human Physiology, MS

The MS in health and human physiology is offered with three subprograms. The child life subprogram provides expertise in child development through services to support families and to promote children's mastery of life experiences, particularly children's health care events. Professionals in this area enhance effective coping skills through play, education, communication, and family-centered care. The program prepares students to meet credentialing requirements. For more information about the profession, visit the Association of Child Life Professionals.

The clinical exercise physiology subprogram provides advanced scientific and clinical education. It prepares students to be allied health professionals who work in the application of physical activity and behavioral interventions for clinical diseases and health conditions including cardiovascular, pulmonary, metabolic, orthopedic, neuromuscular, immunologic, and hematologic diseases.

The MS with thesis prepares students who hold a bachelor's degree for doctoral programs in the broad areas of health promotion and human physiology. It also equips students for leadership roles in industry and government that require strong research and evaluation skills.

Learning Outcomes

Child Life Subprogram

Graduates will:

- demonstrate an understanding of developmental and psychosocial needs of children and families in health care settings and the child life process of assessment, planning, implementation, and documentation of child life interventions;
- demonstrate an understanding of patient– and family–centered care during stressful life experiences and bereavement, providing coping techniques for children and families;
- demonstrate the ability to establish and maintain relationships with children, families, peers, and an approach to interdisciplinary collaboration skills;
- demonstrate an understanding of therapeutic play and creating a therapeutic environment with an approach of cultural competency, adapting interventions and play to children and families with all abilities;
- demonstrate effective oral and written communication and strong critical thinking skills;
- learn to analyze and present research and evidenced-based practice related to children and families;
- prepare for the role of a certified child life specialist in hospitals and community-based facilities; and
- successfully complete a child life practicum, a child life internship, and meet all requirements and pass the certification exam.

Clinical Exercise Physiology Subprogram

Graduates will:

- demonstrate a comprehensive understanding of normal and abnormal cardiovascular, respiratory, and exercise physiology;
- demonstrate a comprehensive understanding of pharmacokinetics, mechanisms of action, indication, contraindication, and names of common cardiac, vascular, metabolic, pulmonary, hematological, and neurological drugs;
- demonstrate a comprehensive understanding of physical activity assessment, the major determinants of physical activity behaviors, and the application of physical activity behavior change strategies;
- demonstrate a comprehensive understanding of metabolic exercise testing and exercise prescription for healthy adults;
- demonstrate understanding of beginning and intermediate electrocardiography (ECG), exercise testing, and exercise prescription for adults with cardiovascular, pulmonary, or metabolic disease;
- demonstrate competency in clinical skills, including taking health screening, heart rate pulse, blood pressure, and pulse oximetry at rest and during exercise;
- understand basic research methods, study design, and statistical analysis; and
- read, interpret, and critique scientific papers in clinical exercise physiology.

MS in Health and Human Physiology Without Subprogram

Graduates will:

- demonstrate understanding and critical evaluation of the scholarly literature in the area of specialization within human physiology and/or health promotion;
- formulate testable research questions and hypotheses resulting in proper experimental study design and analysis plan;
- conduct quantitative or qualitative research including data collection, analysis, and interpretation of results in the context of current scientific knowledge;
- present scientific results to the department, university, or regional/national scientific community; and
- contribute to original research manuscript(s) as the first or co-author for submission to a peer-reviewed scientific journal.