The Ph.D. program is offered with concentrations in biobehavioral science and exercise physiology. Students in the biobehavioral science concentration specialize in one of four areas: biomechanics, performance psychology, motor control / learning, or sports medicine. These interdisciplinary concentrations focus on preparing students as researchers with a blend of course work and research training.

Programs leading to the Master of Science degree in applied physiology and kinesiology (thesis and non-thesis options) are also offered. Areas of concentration for the master’s program include athletic training/ sports medicine, biobehavioral science, clinical exercise physiology, exercise physiology, and human performance. The thesis option gives the student an opportunity to study, conduct research, and prepare a thesis in an area of special interest. The non-thesis option offers the student a specialization in a selected area of study, with additional work in other complimentary areas to meet the student’s interests and the specialty skills needed to be leaders in the field. A comprehensive written examination is required for this option, as is a capstone internship experience. Requirements for these degrees are given in the General Information section of this catalog.

Athletic training/sports medicine: This concentration provides comprehensive academic preparation, research, and clinical experience in the areas of injury prevention, assessment, treatment, rehabilitation, and therapeutic modalities.

Biobehavioral Science: This thesis mandatory concentration is multidisciplinary and flexible, permitting students to tailor their scholarly experience to the development of research skills in one of several related disciplines: biomechanics, motor control and learning, and performance psychology. Each area of specialization is briefly described below.

- **Biomechanics:** The specialization in biomechanics draws from the fields of neuroscience, engineering, and medicine. The course work and training include kinematics and kinetics of movement. Course work also includes anatomy/kinesiology, biomechanics, engineering, neuroscience, medicine, psychology, physical therapy, and statistics.
- **Motor learning / control:** This interdisciplinary specialization draws on experiences and a knowledge base in the movement and sport sciences, cognitive sciences, and physical therapy. Students are prepared to conduct research and provide expertise in traditional motor performance and learning settings.
- **Performance psychology:** This area of specialization provides the basis for understanding and influencing the underlying thought processes and attitudes that will ultimately determine the performance of individuals involved in sport, exercise, and other achievement oriented activities. The primary emphasis is to develop the scientific background and skills necessary for doctoral training and research.

Clinical exercise physiology: The purpose of this non-thesis program is to give students the opportunity to develop advanced knowledge and competencies in Exercise Physiology. Clinical Exercise Physiologists typically practice in hospitals, clinics and wellness centers as part of a health care team that administers tests and develops programs of exercise, counseling, and education for patients with cardiopulmonary, metabolic, and musculoskeletal diseases.

Exercise physiology: This thesis mandatory area of concentration is concerned with the scientific study of how the various physiological systems of the human body respond to physical activity. It is a multidisciplinary field with strong ties to the basic life sciences and medicine, and application to clinical, normal, and athletic populations.

Human performance: This non-thesis master’s concentration merges a range of specializations within the Department into a curriculum that provides educational experiences to graduate students interested in studying the factors that determine human performance in both athletic and nonathletic domains. This flexible approach allows students to focus on specific applications that best meet their individual interests. Human performance incorporates components such as nutrition, psychology, motor behavior, and physiology that are applicable to athletic and clinical populations.

**Majors**