

Class name	Program Title	Course Description	Completed
KIN 601	Statistical Methods	Special parametric and non-parametric statistics applicable to research techniques in kinesiology	Fall 2020
KIN 606	Introduction to Research	Principles, procedures, and techniques of research with an intensive survey of current scientific investigations in the areas of kinesiology. Special attention is given to practical application	Spring 2021
KIN 621	Mechanical Analysis of Motor Development	The mechanical analysis of motor skill with special reference to the use of photographic and mechanical aids	Spring 2022
KIN 623	Human Behavior in Exercise and Sport	An examination of theories and research related to Exercise and Sport Psychology. Including differences, motivation, social influence, processes, psychophysiological aspects, and behavior change technique applied to exercise and sport.	Spring 2021
KIN 624	Applied Research in Exercise and Sport Behavior	This course will examine the need for and purpose of applied Exercise and Sport Psychology research, outline the area of study and examine the research on interventions used to address behavioral issues in sport and exercise.	Fall 2021
KIN 625	Cardiorespiratory aspects of Exercise	A study of alterations in cardiovascular and pulmonary function from exercise with a focus on physiological mechanisms and its application to physical performance and prevention of disease. Laboratory experiences included.	Fall 2020
KIN 626	Strength Development and Programming	Isotonic and Isometric programs for the development of muscular strength and endurance including background neuromuscular physiology. A study of other types of conditioning methods for the development of general fitness.	Fall 2020
KIN 632	Independent Research	Student will demonstrate research design and literature review competency. If a research study is implemented, student must obtain appropriate IRB approval.  Chosen research- Health coaching and its impact on adherence to Cardiac	Spring 2022

		rehabilitation program [REDACTED] [REDACTED]	
KIN 638	Neuromuscular Aspects of Exercise	The course emphasizes current understanding of effects of exercise on skeletal muscle and nervous tissue structure and function with some application to training.	Spring 2021
KIN 644	Advanced Exercise Testing and Prescription	A study of the proper method for exercise testing and prescription with emphasis on risks and benefits. Includes preparation for clinical experiences with rehabilitative fitness agencies and for advanced certification. Some laboratory required.	Fall 2021
KIN 710	Internship	A field work experience at a setting that directly relates to the student's academic preparation and intended employment of area of interest. The purpose is to provide an opportunity for students to engage in practical learning activities and to gain and demonstrate professional competencies.  Location: [REDACTED] [REDACTED]	Fall 2021
KIN 710	Internship	A field work experience at a setting that directly relates to the student's academic preparation and intended employment of area of interest. The purpose is to provide an opportunity for students to engage in practical learning activities and to gain and demonstrate professional competencies.  Location: [REDACTED] [REDACTED]	Spring 2022

## **KIN 625- Cardiorespiratory Aspects of Exercise**

### Description:

A study of alterations in cardiovascular and pulmonary function from exercise with a focus on physiological mechanisms and its application to physical performance and prevention of disease. Laboratory experiences included.

### Objectives:

1. To become familiar with the role of the cardiovascular and pulmonary systems during exercise.
2. To acquire an understanding of the mechanisms that elicit exercise responses and adaptations of the cardiovascular and respiratory systems.
3. To acquire an understanding of the research process and gain an understanding of cardiorespiratory principles through laboratory experiences.
4. To develop an understanding of recent research findings in cardiorespiratory physiology and how these findings can be applied.
5. Foster critical thinking skills required to be a successful professional in a modern world filled with misinformation. This goal is achieved by:
  - Creating a learning environment that relies on collaborative work and emphasizes communication among staff and peers.
  - Placing emphasis on collaborative assignments where students participate in experiments as experimenters and subjects.
  - Focusing on course-based research where the literature may not be conclusive on physiological outcomes of experiments.

## **KIN 638- Neuromuscular Aspects of Exercise**

### Description:

The course emphasizes current understanding of effects of exercise on skeletal muscle and nervous tissue structure and function with some application to training.

### Objectives:

1. To become familiar with mechanisms which explain exercise responses and adaptations of the nervous system, endocrine system, skeletal muscle including bioenergetics.
2. To acquire an understanding of current research in neuromuscular physiology.
3. To gain laboratory experience concerning neuromuscular responses to exercise which will enforce and expand concepts addressed in the course.

## **KIN 644- Advanced Exercise Testing and Prescription**

### Description:

A study of the proper method for exercise testing and prescription with emphasis on risks and benefits. Includes preparation for clinical experiences with rehabilitative fitness agencies and for advanced certification. Some laboratory required.

### For whom the course is planned:

Graduate students currently in or planning to work in preventive and/or rehabilitative exercise settings. It is assumed from the prerequisite courses that the student has a basic knowledge of exercise physiology and exercise testing and prescription – as such these concepts will not be repeated but will appear on evaluations in application form. All material will follow the guidelines from the American College of Sports Medicine (ACSM).

### Objectives:

1. To obtain a fundamental understanding of pathophysiology of the development of chronic diseases including hypertension, obesity, dyslipidemia, and insulin resistance diabetes and to be able to discuss the effect of exercise on each.
2. Discuss muscle, hemodynamic, and cardiorespiratory responses to acute exercise bouts and prolonged exercise training.
3. To be able to apply knowledge, skills and abilities in conducting exercise/fitness/functional tests on individuals at risk for cardiovascular, pulmonary, metabolic, musculoskeletal neuromuscular and immunologic diseases as well as those in occupational health and fitness settings.
4. To obtain an understanding of the principles and theories of body composition assessment and how to conduct valid assessments.
5. To gain appreciation for the principles of health coaching to improve client adherence.