

# KIN - Kinesiology

## **KIN 105 Foundations of Exercise Science: 3 Credits (3 Lec)**

(F, Sp) The aim of this course is to integrate the subdisciplines of exercise science (nutrition, biomechanics, exercise physiology, motor control, and exercise psychology) from the perspectives of definitions, basic science with application to health, fitness, and athletic performance.

## **KIN 210 Principles of Strength and Conditioning: 3 Credits (3 Lec)**

(F) An introduction to the knowledge and skills necessary for the planning, implementation and evaluation of goal-oriented exercise training.

## **KIN 221 Health Anatomy & Physiology: 3 Credits (3 Lec)**

(Sp) This course will focus on the key elements of anatomy and physiology necessary for students in allied health professions, specifically those who will work the areas of community health, health enhancement education, health promotion, and kinesiology. The aim of this course is for students to demonstrate working knowledge of the muscular, skeletal, nervous, cardiovascular, and respiratory, endocrine, and digestive systems, as well as body metabolism.

## **KIN 320 Exercise Physiology: 4 Credits (3 Lec, 1 Lab)**

PREREQUISITE: "C" or better in BIOH 201 or KIN 221, or permission of instructor. (F, Sp) Topics include factors and mechanisms involved with causing changes and adaptations in the physiological responses to training and participating in strength and endurance sports and activities. Lectures and labs emphasize explaining common observations and practices from the physiological view point

## **KIN 322 Kinesiology: 4 Credits (3 Lec, 1 Lab)**

PREREQUISITE: BIOH 201 or KIN 221, and M core or permission of instructor. (F) Emphasis on the effects of joint structures and muscles on movement of the upper extremity, lower extremity, and spine while providing an introduction to the principles of biomechanics

## **KIN 325R Biomechanics: 4 Credits (3 Lec, 1 Lab)**

PREREQUISITE: KIN 322, M 151Q or M 161Q, and PHSX 205  
COREQUISITE: STAT 216Q. (Sp) This course emphasizes the effects of structure, motion, forces, and their effects on and within the human body using both qualitative and quantitative analyses. Additional emphasis will be placed on the development of critical thinking skills associated with biomechanics-related research and interpretation

## **KIN 330 Motor Learning and Control: 4 Credits (3 Lec, 1 Lab)**

PREREQUISITE: "C" or better in BIOH 201 or KIN 221. (F, Sp) This course provides an overview of the role of the brain and nervous system in the control of human movement. Fundamental concepts from motor control will be applied to understand motor deficits in clinical populations

## **KIN 335 Tissue Injury & Adaptation: 3 Credits (3 Lec)**

PREREQUISITE: KIN 221 or BIOH 201. (F, Sp, Su) The aim of the course is to enhance students' understanding of muscle and connective tissue physiology through topics on injury, rehabilitation, and evidenced-based interventions. Students will explore injury-acute and overuse while describing the injury and repair process. Other topics will include pain theory and the physiology of wound healing

## **KIN 370 Exercise Program for Older Adults: 3 Credits (3 Lec)**

(Sp) Students will examine factors associated with physical activity, exercise testing and screening protocols specific to the physiological and health needs of older adults. Students will assess, integrate and differentiate between exercising testing and screening protocols specific to providing exercise programming to older adults.

## **KIN 410 Advanced Strength Training and Conditioning: 3 Credits (3 Lec)**

PREREQUISITE: KIN 320. (F, Sp) Emphasizes the use of critical thinking skills for exercise development and progressions based on fundamental principles from kinesiology, biomechanics, exercise physiology, motor control, and motor learning. Preparation to obtain the Certified Strength and Conditioning Specialist (CSCS) certification, and practical application of this material to the areas of personal training, physical therapy, health enhancement teaching, and exercise physiology is emphasized

## **KIN 415 Advanced Exercise Testing and Prescription: 4 Credits (4 Lec)**

PREREQUISITE: "C" or better in KIN 320 and STAT 216Q, or permission of instructor. (Sp) Senior capstone course. Students are familiarized with the hands-on training and theoretical background needed to competently assess levels of health/fitness in a "low-risk" healthy adult population. Lecture/lab content is structured to prepare students for taking the ACSM certified Exercise Physiologist certification exam

## **KIN 430 Physical Fitness Program Design and Delivery: 3 Credits (3 Lec)**

PREREQUISITE: KIN 320. (F, Sp) This course focuses on the development, organization, and implementation/ administration of physical fitness programs. Includes extensive field experience

## **KIN 435 Advanced Motor Control: 3 Credits (3 Lec)**

PREREQUISITE: KIN 330 Motor Control and Learning. (Sp) This course builds on base knowledge of the human neuromotor system and the control of movement developed in earlier courses. Students will develop an advanced understanding of the key issues in motor control including the degrees of freedom problem and abundance, the perceptual-motor integration problem, the serial order problem and the skill acquisition problem. Students will build advanced knowledge of theoretical concepts by reviewing the cognitive processing model and contrasting this perspective with dynamical systems theory. These fundamental concepts of motor control will be applied to understand skilled motor performance across a range of applications

## **KIN 440R Sport Psychology: 3 Credits (3 Lec)**

(F, Su) The aim of this course is to provide an overview of principles associated with individual behavior and team dynamics in sport and exercise including performance. An interdisciplinary approach will be used to build knowledge through a review of sport and exercise performance factors to include theories and principles, personality, motivation, goal-setting, social dynamics, and overall wellbeing. This course includes the application of research and theory as it relates to sport and exercise.

## **KIN 490R Undergraduate Research: 1-6 Credits (1-6 Other)**

PREREQUISITE: Consent of instructor. (F, Sp, Su) Directed undergraduate research which may culminate in a research paper, journal article, or undergraduate thesis. Course will address responsible conduct of research  
Repeatable up to 12 credits.

## **KIN 491 Special Topics: 1-4 Credits (1-4 Lec)**

Courses not required in any curriculum for which there is a particular one-time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number.  
Repeatable up to 12 credits.

## **KIN 492 Independent Study: 1-3 Credits (1 Other)**

PREREQUISITE: Junior standing, consent of instructor, and approval of department head. (F, Sp, Su) Directed research and study on an individual basis  
Repeatable up to 6 credits.

**KIN 496 Student Assistant Practicum in Kinesiology: 2 Credits (1 Lec, 1 Lab)**

PREREQUISITE: Consent of Instructor. (F, Sp) This course aims to enhance students' knowledge, verbal communication, and leadership skills by providing educational support to students in various KIN rubric lecture or lab courses. Under the direct supervision of the faculty instructor, students will attend weekly preparatory meetings to review course content and best teaching practices while working towards their own personal goals. Repeatable up to 4 credits.

**KIN 498 Internship: 1-12 Credits (1-12 Other)**

PREREQUISITE: Consent of instructor. (F, Sp, Su) An individualized assignment with a professional agency to provide a guided field experience. Repeatable up to 12 credits.

**KIN 506 Exercise and Chronic Disease: 3 Credits (3 Lec)**

PREREQUISITE: Graduate Standing. (Sp) This course will review the implications of exercise for individuals managing chronic conditions throughout the lifespan. Selected chronic diseases will be studied including basic pathophysiology, management, medication, and effects on the exercise response. Research associated with selected chronic conditions will be reviewed.

**KIN 515 Exercise Performance and Nutrition: 3 Credits (3 Lec)**

PREREQUISITE: Graduate standing in Exercise and Nutrition Sciences program. (F) Offered every other Fall, odd years. Knowledge in areas of anatomy and physiology, upper division courses in one or combination of: exercise physiology, biochemistry, or nutrition. This class covers selected topics in exercise physiology, nutrition, and metabolism related to physiological function and performance. The use of nutritional supplements during exercise and the environmental influences on physiological function and metabolism will be addressed.

**KIN 525 Neuromechanics of Human Movement: 3 Credits (3 Lec)**

PREREQUISITE: Graduate standing in Exercise and Nutrition Sciences and undergraduate anatomy and physiology, or exercise physiology, or a biomechanics course. (F) Offered every other Fall, even years. Students will study the concepts, terms, and methods of investigating biomechanics, neuroscience/neuromechanics, motor control, and movement disorders in the human movement system.

**KIN 535 Advanced Motor Control: 3 Credits (3 Lec)**

PREREQUISITE: Graduate standing and undergraduate motor control course. (Sp) Students will develop an advanced understanding of the key issues in motor control including the degrees of freedom problem and abundance, the perceptual-motor integration problem, the serial order problem and the skill acquisition problem. Students will build advanced knowledge of theoretical concepts by reviewing the cognitive processing model and contrasting this perspective with dynamical systems theory. These fundamental concepts of motor control will be applied to understand skilled motor performance across a range of applications.

**KIN 545 Graduate Exercise Physiology: 3 Credits (3 Lec)**

PREREQUISITE: Graduate standing in Exercise and Nutrition Sciences; undergraduate exercise physiology. (F) This course defines and explains a conceptual mechanistic-driven model that explains the basis for maximizing human performance. The instructor relies heavily on readings from the current research literature and student participation to understand the plethora of topics covered.

**KIN 575 Professional Paper and Project: 1-6 Credits (1-6 Other)**

PREREQUISITE: Graduate standing in Exercise and Nutrition Sciences. (F, Sp, Su) A research or professional paper or project dealing with a topic in the field. The topic must have been mutually agreed upon by the student and his or her major adviser and graduate committee. Repeatable up to 6 credits.

**KIN 588 Professional Development: 1-3 Credits (1-3 Lec)**

PREREQUISITE: Graduate standing, teaching experience and/or current employment in a school organization, and consent of instructor and Dean of the Graduate School. (Su) Courses offered on a one-time basis to fulfill professional development needs of in service educators. A specific focus is given to each course which is appropriately subtitled. May be repeated. Repeatable up to 3 credits.

**KIN 589 Graduate Consultation: 1-3 Credits (1-3 Other)**

PREREQUISITE: Graduate standing in Exercise and Nutrition Sciences and approval of committee chair. (F, Sp, Su) Majors in EXNS-MS only. This course may be used only by students who have completed all of their course work (and thesis if on a thesis plan) but who need additional faculty or staff time or help. Repeatable up to 3 credits.

**KIN 590 Master's Thesis: 1-10 Credits (1 Other)**

PREREQUISITE: Graduate standing in Exercise and Nutrition Sciences. (F, Sp, Su) Directed graduate research/creative activity. May be repeated. Repeatable up to 99 credits.

**KIN 591 Special Topics: 1-4 Credits (1-4 Lec)**

PREREQUISITE: Upper division courses and others as determined for each offering. Courses not required in any curriculum for which there is a particular one time need, or given on a trial basis to determine acceptability and demand before requesting a regular course number. Repeatable up to 12 credits.

**KIN 592 Independent Study: 1-3 Credits (1-3 Other)**

PREREQUISITE: Graduate standing, consent of instructor and approval of department head. (F, Sp, Su) Directed research and study on an individual basis. Repeatable up to 6 credits.

**KIN 594 Seminar: 1 Credits (1 Other)**

PREREQUISITE: Graduate standing in Exercise and Nutrition Sciences or seniors by petition. (F, Sp) Course prerequisites as determined for each offering. Topics offered at the graduate level that are not covered in regular courses. Students participate in preparing and presenting discussion material.

Repeatable up to 6 credits.

**KIN 598 Internship: 2-12 Credits (2-12 Other)**

PREREQUISITE: Graduate standing in Exercise and Nutrition Sciences and consent of instructor. (F, Sp, Su) An individualized assignment arranged with an agency, business or other organization to provide guided experience in the field. Repeatable up to 99 credits.

**KIN 690 Dissertation: 1-10 Credits (1-10 Other)**

(F, Sp, Su) Dissertation. Repeatable up to 99 credits.

**KIN 692 Independent Study: 1-3 Credits (1-3 Other)**

(F, Sp, Su) Directed research and study on an individual basis. Repeatable up to 6 credits.