

KINESIOLOGY (KINE)

KINE 120 - SCIENTIFIC FOUNDATIONS OF KINESIOLOGY

Short Title: FOUNDATIONS OF KINESIOLOGY

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: An introduction to studies in the areas of human movement: anatomy and physiology, exercise physiology, biomechanics, motor learning and control, and psychological aspects of sport and exercise.

KINE 238 - SPECIAL TOPICS

Short Title: SPECIAL TOPICS

Department: Kinesiology

Grade Mode: Satisfactory/Unsatisfactory

Course Type: Independent Study, Internship/Practicum, Laboratory, Lecture, Seminar, Activity Course, Lecture/Laboratory, Intensive Learning Experience, Research, Studio

Credit Hours: 1-4

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: Topics and credit hours vary each semester. Contact department for current semester's topic(s). Repeatable for Credit.

KINE 275 - INTERNSHIP IN SPORTS MEDICINE AND EXERCISE PHYSIOLOGY

Short Title: KINE INTERNSHIP

Department: Kinesiology

Grade Mode: Satisfactory/Unsatisfactory

Course Type: Internship/Practicum

Credit Hours: 1-3

Restrictions: Enrollment limited to students with a class of Freshman or Sophomore. Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: Internship experience in Sports Medicine and Exercise Physiology for freshman and sophomore students Repeatable for Credit.

KINE 300 - HUMAN ANATOMY WITH LAB

Short Title: HUMAN ANATOMY WITH LAB

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture/Laboratory

Credit Hours: 4

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: An introduction to normal human anatomy structure and function. All major body systems will be examined in both lecture and laboratory format using a variety of physical and virtual models.

KINE 301 - HUMAN PHYSIOLOGY

Short Title: HUMAN PHYSIOLOGY

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Distribution Group: Distribution Group III

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: This course will address the fundamental principles of human physiology at the cell, tissue, organ, organ system, and organism levels. Emphasis will be placed on mechanisms of function and homeostasis as achieved through the coordinated function of homeostatic control systems.

KINE 302 - BIOMECHANICS

Short Title: BIOMECHANICS

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Prerequisite(s): KINE 300

Description: An introduction to the discipline of mechanics as it applies to biological systems. Primary emphasis is placed on humans and other vertebrate species. Topics covered include the kinematics and kinetics of movement, material and functional properties of musculoskeletal tissues and the integration of musculoskeletal function from molecules and cells to whole animals. Recommended prerequisite(s): KINE 321.

KINE 310 - PSYCHOLOGICAL ASPECTS OF SPORT AND EXERCISE

Short Title: PSYC OF SPORT & EXERCISE

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: Examine the psychological foundations that underlie sport and exercise participation. Recommended Prerequisite(s): PSYC 101.

KINE 311 - MOTOR LEARNING

Short Title: MOTOR LEARNING

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: Designed to provide a basic understanding of the theories related to skill acquisition, development, and movement. Learners develop an understanding of the cognitive, behavioral, and neurological concepts needed to become skilled at movements. The course will also incorporate laboratory experiences in the physiological, neurological, and psychological factors of human movement.

KINE 319 - STATISTICS FOR THE HEALTH PROFESSIONAL

Short Title: STATS FOR HEALTH PROFESSIONAL

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: Topics include displaying and describing data, the normal curve, regression, statistical inference including parametric and non-parametric analyses, and hypothesis testing. Students also have the opportunity to analyze data using SPSS and Excel software.

KINE 320 - HUMAN PHYSIOLOGY LAB

Short Title: HUMAN PHYSIOLOGY LAB

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Laboratory

Credit Hour: 1

Restrictions: Enrollment is limited to students with a major in Sports Medicine & Exercise Phy. Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Prerequisite(s): KINE 301

Description: This course provides a hands-on laboratory to demonstrate and apply in-depth human physiology concepts. Students will collect, analyze, and report data on physiological variables. Findings will be applied to key human physiology concepts including homeostasis, isolated and integrated functions of body systems, and response to activity and exercise.

KINE 321 - EXERCISE PHYSIOLOGY

Short Title: EXERCISE PHYSIOLOGY

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Prerequisite(s): KINE 300 and KINE 301

Description: This course examines the acute and chronic effects of exercise on physiological functions. Topics include nutrition, energy transfer, fatigue, metabolism, disease, aging, preventative medicine, genetics, elite performance, ergogenic aids, exercise testing, and specificity of training.

KINE 326 - PHYSICAL ACTIVITY EPIDEMIOLOGY

Short Title: PHYSICAL ACTIVITY EPIDEMIOLOGY

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: This course provides an epidemiological foundation to exercise and physical activity research related to public health. The course is designed to present evidence of the positive effects of physical activity and exercise in preventing disease, disability, and increasing quality of life.

KINE 351 - ADVANCED HUMAN ANATOMY LAB

Short Title: ADVANCED HUMAN ANATOMY LAB

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Laboratory

Credit Hour: 1

Restrictions: Enrollment is limited to students with a major in Sports Medicine & Exercise Phy. Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Prerequisite(s): KINE 300

Description: Study of the pro-sections and cadavers are used for learning and understanding human anatomy in a gross anatomy examination laboratory at BCM in the Texas Medical Center. Hands-on examination of human anatomy in this course provides supplemental practical experience for lectures in KINE 300, Human Anatomy courses.

KINE 375 - SPORTS MEDICINE & EXERCISE PHYSIOLOGY INTERNSHIP

Short Title: SPORTS MEDICINE INTERNSHIP

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Internship/Practicum

Credit Hours: 1-3

Restrictions: Enrollment limited to students with a class of Junior or Senior. Enrollment is limited to students with a major in Sports Medicine & Exercise Phy. Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: Internship experience for upperclassmen in the Sports Medicine and Exercise Physiology major. Department Permission Required. Repeatable for Credit.

KINE 403 - SPORT NUTRITION

Short Title: SPORTS NUTRITION

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Prerequisite(s): HEAL 103

Description: This course will address current scientific knowledge about common macronutrients, micronutrients, and supplements, and how they may enhance athletic performance. The course will also focus on the role of nutritional timing, volume, and periodization to achieve practical results in endurance, strength, power and speed. Recommended Prerequisite(s): KINE 321.

KINE 410 - CASE STUDIES IN HUMAN PERFORMANCE

Short Title: CASE STUDIES HUMAN PERFORMANCE

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Research

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: An advanced, multidisciplinary consideration of how humans perform. Class work will center around problem solving using a case study methodology.

KINE 412 - MOTOR CONTROL**Short Title:** MOTOR CONTROL**Department:** Kinesiology**Grade Mode:** Standard Letter**Course Type:** Lecture**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** KINE 311**Description:** Exploration of the neurophysiological, behavioral, and biomechanical aspects of human movement and development.**KINE 415 - PSYCHOLOGICAL ASPECTS OF SPORTS INJURY & REHABILITATION****Short Title:** PSYCHOLOGY OF SPORT INJURY**Department:** Kinesiology**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** This course examines the psychological factors involved in sport-related injuries and the rehabilitation process. Topics include personal and situational factors influencing injury and recover, adherence to rehabilitation programs, social support, returning to play after injury, and the application of psychological interventions to optimize the recovery process. Recommended Prerequisite(s): KINE 310**KINE 419 - MOVEMENT DISORDERS****Short Title:** MOVEMENT DISORDERS**Department:** Kinesiology**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** KINE 300 and KINE 301 and KINE 311**Description:** This course offers an in-depth look into selected developmental, degenerative, and hyperkinetic movement disorders resulting in abnormal muscle tone and/or motor control. Multiple aspects of each disorder (presentation, treatment, and progression) will be considered through a variety of sources.**KINE 421 - ADVANCED TOPICS IN EXERCISE PHYSIOLOGY AND PREVENTIVE MEDICINE****Short Title:** ADV TOPICS IN EX PHYS & MED**Department:** Kinesiology**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** KINE 321**Description:** This course is a seminar style course that examines acute and chronic effects of exercise stimuli on physiological adaptation as relevant to health, disease and human performance. Topics will vary depending on current issues in exercise physiology. Examples include metabolism, fatigue, diabetes, genetics, muscular dystrophy, orthopedics, cancer and cardiovascular disease. The course is intended for those with a background in biology and/or physiology and interest in exercise and health.**KINE 430 - SPORTS INJURY: EVALUATION, MANAGEMENT, AND TREATMENT****Short Title:** SPORTS INJURY**Department:** Kinesiology**Grade Mode:** Standard Letter**Course Type:** Lecture**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** KINE 300**Description:** Upper level course designed to provide students with practical application of basic science knowledge obtained in lower level courses within the department of Kinesiology. The course will address the management of common sports injuries from time of injury to return to play. At the end of the course, students will have a comprehensive understanding of athletic injuries and their management.**KINE 440 - RESEARCH METHODS****Short Title:** RESEARCH METHODS**Department:** Kinesiology**Grade Mode:** Standard Letter**Course Type:** Lecture**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** KINE 319**Description:** Designed to introduce students to research methods, statistical techniques, and topics appropriate for experimental research.

KINE 441 - MUSCLE PHYSIOLOGY AND PLASTICITY

Short Title: MUSCLE PHYSIOLOGY&PLASTICITY

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Prerequisite(s): KINE 321

Description: This course will specifically address cardiac and skeletal muscle physiology and plasticity when introduced to various stimuli. These stimuli include exercise, aging, injury, altitude, microgravity, heat, and pharmacological agents. An emphasis will be placed on practical application to health, disease, and performance enhancement.

KINE 477 - SPECIAL TOPICS

Short Title: SPECIAL TOPICS

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Laboratory, Internship/Practicum, Lecture, Seminar, Lecture/Laboratory

Credit Hours: 1-4

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: Topics and credit hours may vary each semester. Contact department for current semester's topic(s). Repeatable for Credit.

KINE 490 - SEMINAR IN SPORTS MEDICINE

Short Title: SEMINAR IN SPORTS MEDICINE

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Seminar

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: Considers issues related to athletic injury including mechanisms, assessment, management, and rehabilitation.

KINE 495 - INDEPENDENT RESEARCH IN SPORTS MEDICINE & EXERCISE PHYSIOLOGY

Short Title: INDEPENDENT RESEARCH

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Research

Credit Hours: 1-3

Restrictions: Enrollment limited to students with a class of Junior or Senior. Enrollment is limited to students with a major in Sports Medicine & Exercise Phy. Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Prerequisite(s): KINE 319 and KINE 440

Description: To provide the student with an opportunity to participate in a research project under the supervision of a Rice Kinesiology faculty member and/or an external researcher. Department Permission Required. Recommended Prerequisite(s): KINE 319 and KINE 440. Repeatable for Credit.

KINE 498 - SPECIAL TOPICS IN SPORTS MEDICINE

Short Title: SPECIAL TOPICS IN SPORTS MED

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Prerequisite(s): KINE 321

Description: This course is designed to provide students with a foundation of exercise testing and prescription. It will cover the many parameters of fitness assessment, including cardiorespiratory fitness, muscular strength and endurance, and body composition. The course will incorporate both lectures and lab based activities. Repeatable for Credit.

KINE 499 - TEACHING PRACTICUM IN SPORTS MEDICINE & EXERCISE PHYSIOLOGY

Short Title: TEACHING PRACTICUM

Department: Kinesiology

Grade Mode: Standard Letter

Course Type: Internship/Practicum

Credit Hours: 1-3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Upper-Level

Description: Students will assist in conducting a course in which they have previously excelled. The student will learn techniques in course management, instruction, and evaluation. Department Permission Required. Recommended prerequisite(s): Junior or Senior standing, declared major in Sports Medicine & Exercise Physiology, and at least an "A-" in the course serving as the practicum. Repeatable for Credit.