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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Short Title</th>
<th>Department</th>
<th>Grade Mode</th>
<th>Course Type</th>
<th>Credit Hours</th>
<th>Restrictions</th>
<th>Course Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>KINE 319</td>
<td>STATISTICS FOR THE HEALTH PROFESSIONAL</td>
<td>STATS FOR HEALTH PROFESSIONAL</td>
<td>Kinesiology</td>
<td>Standard Letter</td>
<td>Lecture</td>
<td>3</td>
<td>Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.</td>
<td>Undergraduate Upper-Level</td>
<td>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.</td>
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<td>KINE 320</td>
<td>HUMAN PHYSIOLOGY LAB</td>
<td>HUMAN PHYSIOLOGY LAB</td>
<td>Kinesiology</td>
<td>Standard Letter</td>
<td>Laboratory</td>
<td>3</td>
<td>Enrollment is limited to students with a major in Sports Medicine &amp; Exercise Phy. Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.</td>
<td>Undergraduate Upper-Level</td>
<td>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.</td>
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<td>KINE 321</td>
<td>EXERCISE PHYSIOLOGY</td>
<td>EXERCISE PHYSIOLOGY</td>
<td>Kinesiology</td>
<td>Standard Letter</td>
<td>Lecture</td>
<td>3</td>
<td>Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.</td>
<td>Undergraduate Upper-Level</td>
<td>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.</td>
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<td>KINE 326</td>
<td>PHYSICAL ACTIVITY EPIDEMIOLOGY</td>
<td>PHYSICAL ACTIVITY EPIDEMIOLOGY</td>
<td>Kinesiology</td>
<td>Standard Letter</td>
<td>Lecture</td>
<td>3</td>
<td>Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.</td>
<td>Undergraduate Upper-Level</td>
<td>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.</td>
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<td>KINE 351</td>
<td>ADVANCED HUMAN ANATOMY LAB</td>
<td>ADVANCED HUMAN ANATOMY LAB</td>
<td>Kinesiology</td>
<td>Standard Letter</td>
<td>Laboratory</td>
<td>1</td>
<td>Enrollment is limited to students with a major in Sports Medicine &amp; Exercise Phy. Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.</td>
<td>Undergraduate Upper-Level</td>
<td>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.</td>
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<td>KINE 375</td>
<td>SPORTS MEDICINE &amp; EXERCISE PHYSIOLOGY INTERNSHIP</td>
<td>SPORTS MEDICINE INTERNSHIP</td>
<td>Kinesiology</td>
<td>Standard Letter</td>
<td>Internship/Practicum</td>
<td>1-3</td>
<td>Enrollment limited to students with a class of Junior or Senior. Enrollment is limited to students with a major in Sports Medicine &amp; Exercise Phy. Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.</td>
<td>Undergraduate Upper-Level</td>
<td>Internship experience for upperclassmen in the Sports Medicine and Exercise Physiology major. Department Permission Required. Repeatable for Credit.</td>
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<td>KINE 403</td>
<td>SPORT NUTRITION</td>
<td>SPORTS NUTRITION</td>
<td>Kinesiology</td>
<td>Standard Letter</td>
<td>Lecture</td>
<td>3</td>
<td>Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.</td>
<td>Undergraduate Upper-Level</td>
<td>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 Preerequisite(s): KINE 321.</td>
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<td>KINE 410</td>
<td>CASE STUDIES IN HUMAN PERFORMANCE</td>
<td>CASE STUDIES HUMAN PERFORMANCE</td>
<td>Kinesiology</td>
<td>Standard Letter</td>
<td>Research</td>
<td>3</td>
<td>Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.</td>
<td>Undergraduate Upper-Level</td>
<td>An advanced, multidisciplinary consideration of how humans perform. Class work will center around problem solving using a case study methodology.</td>
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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 301
Description: This course will examine the human immune system and how it is impacted by exercise, aging and psychological stressors such as space flight. The course will explore how acute and chronic stressors, with a specific emphasis on exercise, can impact the immune system and overall health. 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.