

Kinesiology (KINS)

Course information contained within the Bulletin is accurate at the time of publication in June 2025 but is subject to change. For the most up-to-date course information, please refer to the Course Catalog.

KINS 1201. Introduction to Kinesiology in Public Health. 3 Credit Hours.

Introduction to Kinesiology in Public Health provides students with foundational knowledge about the discipline of Kinesiology within public health, and how Kinesiology serves society through the work of professionals who help people reap the benefits of physical activity to live healthy and fulfilling lives. The main topics of the course include: (a) an overview of the scientific basis of Kinesiology; (b) benefits of physical activity - physically, intellectually, socially, emotionally, and spiritually; (c) Kinesiology's role in public health, particularly in relation to addressing the major public health issue of physical inactivity; (d) primary approaches to promoting physical activity at the individual level (provider-to-client/patient) and population level (community-based); and (e) professional practice in Kinesiology, including career pathways in the fields of physical activity, health promotion, and fitness/wellness. The aim of the course is to expose students to how practitioners and researchers trained in Kinesiology work collaboratively with colleagues from other disciplines to promote the physical activity, health, and well-being of clients.

Repeatability: This course may not be repeated for additional credits.

KINS 1203. Introduction to Exercise and Sport Science. 3 Credit Hours.

The course explores in detail the relationship between physical activity and health. It also examines roles and responsibilities of the health-fitness specialist and the exercise specialist as defined by the American College of Sports Medicine. This course serves as an introduction of the professional applications in Exercise and Sport Science to include fitness promotion, preventative (wellness), and rehabilitative (clinical) exercise programming. The student will be encouraged to investigate the nature and scope of the health-fitness professional, to define applications of the physiology of exercise, and to integrate the concepts into their personal health-fitness, or exercise programs.

Repeatability: This course may not be repeated for additional credits.

KINS 1221. Principles of Anatomy and Physiology I. 3 Credit Hours.

Kinesiology 1221 is the first in a two course sequence dealing with the structure and functional systems of the human body. Emphasis is placed upon systems integration as well as the manner in which organ systems undergo homeostatic regulation. This course considers general body organization and the skeletal, muscular, nervous, and endocrine systems. NOTE: To determine if this course in combination with another course can satisfy the GenEd Science & Technology requirement, see your advisor. This course is not equivalent to Kinesiology 1223 (Anatomy and Physiology with Lab) and cannot be used to replace the grade earned in Kinesiology 1223.

Repeatability: This course may not be repeated for additional credits.

KINS 1222. Principles of Anatomy and Physiology II. 3 Credit Hours.

Kinesiology 1222 is the second in a two course sequence dealing with the structure and functional systems of the human body. Emphasis is placed upon systems integration as well as the manner in which organ systems undergo homeostatic regulation. This course considers the cardiovascular, respiratory, lymphatic, and reproductive systems to include nutrition, metabolism, and electrolyte balance. NOTE: To determine if this course in combination with another course can satisfy the GenEd Science & Technology requirement, see your advisor. This course is not equivalent to Kinesiology 1224 (Anatomy and Physiology with Lab II) and cannot be used to replace the grade earned in Kinesiology 1224.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- in KINS 1221.

KINS 1223. Human Anatomy and Physiology I. 4 Credit Hours.

This course is the first of a two-course sequence dealing with the anatomical and functional relationships of the human body. Emphasis is placed on systems integration leading to an understanding of the functions of the human organism. Kinesiology 1223 covers basic structure and function of the body (cells and tissues, organs, systems) through detailed investigations of the skeletal, muscular, and nervous systems. NOTE: To determine if this course in combination with another course can satisfy the GenEd Science & Technology requirement, see your advisor. This course is not equivalent to Kinesiology 1221 (Principles of Anatomy and Physiology I) and cannot be used to replace the grade earned in Kinesiology 1221.

Course Attributes: SA

Repeatability: This course may not be repeated for additional credits.

KINS 1224. Human Anatomy and Physiology II. 4 Credit Hours.

This course is the second in a two-course sequence dealing with the anatomical and functional relationships of the human body. Emphasis is placed on systems integration leading to an understanding of the functions of the human organism through detailed investigations of the endocrine, circulatory, digestive, urinary, and reproductive systems. NOTE: (1) Lab fee required. (2) To determine if this course in combination with another course can satisfy the GenEd Science & Technology requirement, see your advisor. This course is not equivalent to Kinesiology 1222 (Principles of Anatomy and Physiology II) and cannot be used to replace the grade earned in Kinesiology 1222.

Course Attributes: SB

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- in KINS 1223.

KINS 1225. General Human Anatomy & Physiology. 3 Credit Hours.

The purpose of this course is to provide an overview of the human body's general organization; and integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems. NOTE: This course is for Social Work majors only.

Repeatability: This course may not be repeated for additional credits.

KINS 1923. Honors Anatomy and Physiology I. 4 Credit Hours.

Kinesiology 1923 is the first of two courses dealing with the anatomical and functional relationships of the human body. As future clinicians and allied health professionals, students will focus on the integration of body systems leading to an understanding of the human body. Foundational knowledge about a healthy human organism will be introduced along with common human disease processes in order to challenge students to develop analytical skills and to further their understanding of the material. This first course deals specifically with the general organization of the body and the integumentary, skeletal, muscular, and nervous systems. The laboratory section of this course will involve the examination of models and the dissection of cadavers, along with other activities. NOTE: To determine if this course in combination with another course can satisfy the GenEd Science & Technology requirement, see your advisor.

Course Attributes: HO

Repeatability: This course may not be repeated for additional credits.

KINS 2001. Social Determinants of Health and Physical Activity. 3 Credit Hours.

Social Determinants of Health (SDOH) are defined as the complex circumstances in which individuals are born and live that impact their health. They include political, socioeconomic, and cultural constructs, as well as access to healthcare and education systems, safe environmental conditions, well-designed neighborhoods, and availability of healthful food. Many issues pertaining to physical activity, nutrition, and other preventive health behaviors can be addressed through examining the SDOH that influence access to, and participation in, health behaviors. This course will provide students with a critical foundation in SDOH, health equity and social justice knowledge so they may apply this lens to future course work and in professional settings.

Repeatability: This course may not be repeated for additional credits.

KINS 2203. Physiology of Physical Activity. 4 Credit Hours.

This course is a fundamental course on the basic concepts and principles of the physiology of physical activity/exercise. It is one of the core courses required of Exercise and Sport Science (ESS) and Kinesiology majors and serves as a prerequisite for the advanced level course in exercise physiology (KINS 4311) required for the ESS majors. Organ functions (i.e., at the system, organ, and cellular level) that contribute to exercise will be described and contrasted for different exercise conditions. Description and explanation will be provided of the functional physiological changes brought about by single or repeated bouts of exercise sessions with the intent to improve the exercise responses and functional capacity and promote health-related physical fitness. Laboratory experiences include the measurement of muscular, metabolic, cardiovascular, and pulmonary functions during rest and exercise, as well as related topics of energy balance, body composition, and fitness assessments.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 1224 or 'Y' in CRKI03)

KINS 2204. Motor Behavior. 3 Credit Hours.

This course provides an overview of the psychological and physiological basis of human movement behavior including motor development, motor learning, perceptual motor behavior, and individual differences.

Repeatability: This course may not be repeated for additional credits.

KINS 2205. Exercise Assessment and Programming. 4 Credit Hours.

The course explores the roles and responsibilities of the exercise professional in performing exercise assessments and interpretation, and then prescribing appropriate exercise programs in both apparently healthy and diseased populations. Accordingly, the student will apply their knowledge, skills, and abilities (as defined in the ACSM's Guidelines for Exercise Testing and Prescription) in both lecture and laboratory experiences; and demonstrate competencies and proficiencies in standard exercise testing procedures of the various components of health- and skill-related fitness. Accordingly, students will learn to conduct a complete fitness evaluation according to the guidelines established by the ACSM and prescribe the appropriate exercise program. Methods of quantifying the energy cost of activity and the development of exercise / wellness programs for people with known disease, those at high risk, and the apparently healthy individual will be explored. As the penultimate class in the student's program of study, this class is designed to help students integrate and synthesize a large body of knowledge. Upon completion of this course, students should be prepared to successfully complete the American College of Sports Medicine (ACSM) Certified Exercise Physiologist credentialing exam, and have significant background in preparing for the Certified Clinical Exercise Physiologist credentialing exam.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 2203 or 'Y' in CRKI05)

KINS 2424. Functional Anatomy for Kinesiology. 3 Credit Hours.

This course is designed to introduce the student to the basic principles of kinesiology and functional anatomy as they relate to normal movement. Basic neuromusculoskeletal assessment techniques such as identification and palpation will be emphasized in the course.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 1223, 'Y' in KIN1, or 'Y' in CRKI02)

KINS 2501. Physical Activity Across the Lifespan. 3 Credit Hours.

Physical Activity Across the Lifespan will introduce students to the role of physical activity in promoting human health and well-being throughout life, starting in infancy through older adulthood. The main topics of the course include: (a) basic effects of physical activity on physical health, mental health, and disease conditions; (b) how physical activity relates to contemporary models of human well-being; (c) the role of physical activity in the prevention, management, and treatment of major chronic diseases; (d) approaches to promote physical activity in different age populations; (e) challenges/barriers to promoting physical activity among people of various ages; and (f) an introduction to physical activity surveillance and the primary ways physical activity levels are measured. An aim of the course is to engage students' imagination about how changes to the physical (built) environment of neighborhoods can help promote physical activity and quality of life for people of all ages.

Repeatability: This course may not be repeated for additional credits.

KINS 2502. Physical Activity for Individuals with Disabilities. 3 Credit Hours.

Physical Activity for Individuals with Disabilities examines the role of physical activity in promoting the health of individuals with intellectual, physical, and other developmental disabilities. The main topics of the course include: (a) an introduction to the area of Adapted Physical Activity; (b) health and functional benefits of physical activity for people with disabilities; (c) descriptions of common physical and intellectual disabilities, and the trajectory of these disabilities across the lifespan; (d) disability-related laws and advocacy efforts; and (e) planning and implementing physical activities that match with clients' specific disability needs. An aim of the course is to provide students with practical experience working with individuals of various ages who have disabilities.

Repeatability: This course may not be repeated for additional credits.

KINS 3096. Cultural Competency in Health and Healthcare. 3 Credit Hours.

Cultural competence goes beyond language, ethnicity, race and sex. This course will examine those components in the context of cultural traditions, gender issues, aging, and (dis)ability. There is a need for such background knowledge to develop the skills to effectively interact with diverse groups of people to improve the patient experience in healthcare, eliminate cultural and linguistic barriers during clinical encounters, develop sensitivity to gender/age/ability bias, ensure compliance with all care requirements and protocols, and improve the overall quality of care. This interaction includes (but is not limited to) patients, patients' families, and the health care team. This course is reflective of the needs expressed by the National Institutes of Health to best prepare the future public health and healthcare workforce.

Course Attributes: WI

Repeatability: This course may not be repeated for additional credits.

KINS 3101. Historical and Philosophical Dimensions of Physical Activity. 3 Credit Hours.

Historical and Philosophical Dimensions of Physical Activity examines how people's physical activity experiences are shaped by historical events and philosophical perspectives. The course will explore three main topics: (a) historical events surrounding the origin and development of physical activity pursuits in the U.S. and around the world, (b) branches of philosophy and worldviews used to explain why people engage in physical activity, and (c) ethical principles utilized in professional roles for Kinesiology related careers. The course will also help students argue persuasively about the importance of physical activity for human health and well-being.

Repeatability: This course may not be repeated for additional credits.

KINS 3196. Psychology of Physical Activity. 3 Credit Hours.

Psychology of Physical Activity examines the psychological factors that contribute to people's engagement in physical activity and exercise. Psychological factors such as attitude, motivation, and confidence will be presented as well as evidence-based ways to enhance them. In addition, students will learn about the important role of physical activity in the promotion of cognitive function and psychological well-being. The course will also introduce students to the types of behavior-change interventions that integrate psychological knowledge and skills to promote physical activity, health, and well-being among diverse populations.

Course Attributes: WI

Repeatability: This course may not be repeated for additional credits.

KINS 3202. Biomechanics of Physical Activity. 4 Credit Hours.

This course focuses on the anatomical and functional relationships among the skeletal and muscular systems and the basic mechanical principles involved in physical activity.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 1223, 'Y' in KIN1, or 'Y' in CRKI02)

KINS 3203. Exercise Assessment and Programming. 4 Credit Hours.

The course explores the roles and responsibilities of the exercise professional in performing exercise assessments and interpretation, and then prescribing appropriate exercise programs in both apparently healthy and diseased populations. Accordingly, the student will apply their knowledge, skills, and abilities in both lecture and laboratory experiences; and demonstrate competencies and proficiencies in standard exercise testing procedures of the various components of health-related fitness. Students will learn to conduct a complete fitness evaluation according to the guidelines established by the American College of Sports Medicine (ACSM) and prescribe the appropriate exercise program. Methods of quantifying the energy cost of activity and the development of exercise / wellness programs for people with known disease, those at high risk, and the apparently healthy individual will be explored.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 2203 or 'Y' in CRKI05)

KINS 3213. Human Movement and Development. 3 Credit Hours.

Human Movement and Development examines the processes by which people acquire and utilize movement skills across the lifespan, and how movement experiences contribute holistically to human development - physically, cognitively, socially, emotionally, spiritually, and culturally. Motor development from infancy through older adulthood will be presented as well as how aging affects the major body systems and the acquisition, maintenance, and loss of movement skills. In-class activities will give students hands-on practice with course content, including administering assessments of movement proficiency. An aim of the course is to expose students to real-world settings where movement experiences are used to support multiple areas of children and adults' development.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 2204, 'Y' in KIN4, or 'Y' in CRKI06)

KINS 3252. Exercise Psychology and Adherence. 3 Credit Hours.

Exercise Psychology and Adherence examines how Kinesiology professionals help clients adopt and adhere to physical activity and exercise programs. The main topics of the course include: (a) conceptual models of exercise psychology and adherence; (b) physical, psychological, social, demographic, and cultural factors that affect exercise adoption and adherence; and (c) evidenced-based behavioral and motivational strategies for exercise adoption and adherence. The aim of the course is to expose students to how exercise psychology and adherence principles can be used to promote a physically active lifestyle that enhances self-concept, health, and well-being among diverse populations.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 4596.

KINS 3316. Principles of Personal Fitness. 4 Credit Hours.

The course involves an in-depth study of neuromuscular anatomy and physiology with special attention to the acquisition and expression of muscular strength. The scientific basis of muscle performance will be thoroughly investigated. Contemporary training theories for the modification of strength, endurance, speed and power of human skeletal muscle will be reviewed and the results applied to special populations across the movement spectrum. This course is designed to help students integrate and synthesize a large body of knowledge in regard to the role of strength in people's lives and how to best construct exercise-training programs whose outcomes aim to improve neuromuscular function. Via the laboratory component of this course, students will develop experience in exercise performance and exercise programming for optimal strength, endurance, speed and power as well as help prepare students pursuing the NSCA-Certified Strength and Conditioning Specialist (CSCS) credential.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 2203.

KINS 3362. Olympic and Powerlifting. 3 Credit Hours.

Students pursuing careers in exercise and sports science must know how to perform and coach the events in Olympic and Powerlifting. The purpose of this course is to explain, demonstrate, and perform the Olympic (Snatch, Clean, Jerk) and Power (Squat, Bench, Deadlift) lifts. Technique, and teaching/coaching strategies for these events will be emphasized. This course will progress through sequences of teaching the various skill progressions. This course will also address the variety of training programs developed. Biomechanical, physiological, and psychological foundations of weightlifting technique and training will be introduced.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 2203.

KINS 3363. Basic Electrocardiography. 3 Credit Hours.

Basic Electrocardiography (EKG) presents the fundamentals of electrocardiography. Structure and function of the heart and circulatory system, the electrical and mechanical events of the cardiac cycle, and normal and abnormal EKG responses at rest and during exercise will serve as the primary course content. The course is designed to provide the Exercise and Sport Science student with both a theoretical knowledge base about the heart and circulatory system and a practical working understanding of the resting and stress electrocardiogram. The student will develop the necessary skills to administer and interpret a 12-lead resting electrocardiogram as well as an exercise EKG as part of graded exercise testing.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 3203 (may be taken concurrently)

KINS 3364. The Science of Health-Related Fitness. 3 Credit Hours.

The focus of this course is on how physical activity and exercise contribute to health-related fitness, and on the linkage between health-related fitness and optimal health/wellness. The components of health-related fitness will be presented as well as evidence-based ways to develop them. Students will engage in health-related fitness assessments, develop personalized health-related fitness programs, and identify the role of health-related fitness for people of all ages, including those with chronic conditions. The course will also introduce students to the topic of epidemiology of physical activity, including content about the prevalence and patterns of physical activity among Americans and the relationship between physical activity and certain chronic conditions. Laboratory activities are integrated into class meetings to give students hands-on practice with course content.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 2203 (may be taken concurrently) or 'Y' in CRKI05)

KINS 3368. Principles of Health Fitness Program Management. 3 Credit Hours.

This course deals with the economics of health-fitness programs on personal, commercial, community, and corporate levels. Topics include: health care cost containment, absenteeism, productivity, and the public/personal relations value of corporate and community programs, along with financial and managerial considerations in successful commercial ventures. Students will study various models based upon specific objectives as well as investigate strategies for the implementation of the various models. Practical and theoretical aspects of designing and managing a health-fitness facility, along with techniques of marketing and promotion to ensure long term adherence and program success are also covered.

Repeatability: This course may not be repeated for additional credits.

KINS 3501. Research Methods in Kinesiology. 4 Credit Hours.

Research Methods in Kinesiology will introduce students to how the scientific method is applied to create the evidence base for the discipline of Kinesiology and how to interpret and use the evidence as a Kinesiology professional. The main topics of the course include: (a) scientific methods, (b) searching the literature and how to evaluate the literature, (c) types of research, (d) techniques for measuring physical activity, and (e) ethical issues in research. An aim of the course is to help students be good consumers of research about physical activity and exercise so they can accurately interpret information from media sources, magazines, and peer-reviewed scientific journals and critically assess the quality of that information. Laboratory activities will provide students with hands-on practice and opportunities to apply course concepts.

Repeatability: This course may not be repeated for additional credits.

KINS 4001. Physical Activity Promotion for Health Professionals. 3 Credit Hours.

This course will provide an overview of physical activity participation and promotion applied to various health settings. The class will include three units and topics areas: 1) Physical Activity Basics, 2) Physical Activity and Common Chronic Conditions, and 3) Physical Activity Promotion. Students will learn about physical activity recommendations across the lifespan, domains, and dimensions of physical activity, the role that physical activity plays in the prevention and treatment of common chronic conditions, and the application of behavior change theories used in physical activity promotion.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (Complete 2 of the following: (KINS 1223 or 'Y' in CRKI02) and (KINS 1224 or 'Y' in CRKI03), Complete 2 of the following: (BIOL 1111, BIOL 1911, 'Y' in CRBI02, or 'Y' in CRBI03) and (BIOL 2112, BIOL 2912, 'Y' in CRBI04, or 'Y' in CRBI10), or SBS 2001)

KINS 4096. Introduction to the Narrative in Patient-Centered Health Care. 3 Credit Hours.

This is a multidisciplinary course that uses a variety of ways to help students understand the human experience in the context of health and illness and explore the linkage between the story and the body. In order to help develop narrative competence, students will learn how a narrative approach to health and disease is different from the conventional biomedical approach. The focus of narrative medicine is on the individual patient, a person with a past, a person with pain, and a person with agency. Students will learn about the ways in which the patient's story and physiology are related, how the story can be used in a clinical setting, and how to improve their ability to interpret narratives. It will provide students with the skills of respecting multiple perspectives. It will help them hear and mediate competing voices (e.g. those of authority, the patient, the patient's family), and it will help them engage in the dynamics of movement between empathy and emotional detachment. The goal for this course is interprofessional, patient-centered, and humanistic; and it is intended to promote compassionate clinical care through valuing the patient's, and the practitioner's, own unique experiences.

Course Attributes: WI

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 3096 or 'Y' in CRKI09) and (HRPR 2103, HPM 2214, or 'Y' in CRHP01)

KINS 4196. Sociology of Physical Activity. 3 Credit Hours.

Sociology of Physical Activity examines how people's engagement in physical activity and exercise is shaped by social factors and conditions within societies. Social factors such as race and ethnicity, gender, and social class will be presented as well as current research about how these factors are considered in interventions to promote physical activity, health, and well-being among diverse populations. The course will also help students develop an appreciation for the cultural influences and social inequalities surrounding access to and participation in physical activity experiences across the lifespan.

Course Attributes: WI

Repeatability: This course may not be repeated for additional credits.

KINS 4238. Sports in American Society. 3 Credit Hours.

The focus of this course is the unique role sports play in American society. The course deals with advanced theory in the sociology of physical activity. Topics include, but are not limited to, sexuality and sports, youth sports, violence in sports, mass media and sports, nationalism, and aging and physical activity.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 3296 or 'Y' in CRKI11)

KINS 4239. Self-Development Through Physical Activity. 3 Credit Hours.

This course engages a group process-based experience in which students explore the impact of physical activity upon their lives. Emphasis is placed on interpreting past movement experiences from the present context and planning for a fit and active life.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 3296 or 'Y' in CRKI11)

KINS 4242. Exercise, Nutrition and Behavior. 3 Credit Hours.

This course will provide an overview of the interaction among exercise, nutrition and behavior, specifically from a psychosocial approach. Students will learn about psychological factors, health behavior change, assessment and intervention strategies for exercise and nutrition. Course content is particularly relevant for undergraduate students in the social science and bioscience aspects of kinesiology, psychology, public health, and other health professions.

Repeatability: This course may not be repeated for additional credits.

KINS 4282. Independent Study in Kinesiology. 1 to 6 Credit Hour.

This course provides an opportunity for independent investigation and analysis of the intellectual, physical, social, psychological, and ethical bases of human movement.

Repeatability: This course may be repeated for additional credit.

Pre-requisites: Minimum grade of C in (KINS 1201, 'Y' in KIN3, or 'Y' in CRKI01), (KINS 3296 or 'Y' in CRKI11), and Completed 2 of the following: (KINS 2203 or 'Y' in CRKI05), (KINS 2204, 'Y' in KIN4, or 'Y' in CRKI06), and (KINS 3202 or 'Y' in CRKI10)

KINS 4283. Directed Readings and Study in Kinesiology. 1 to 6 Credit Hour.

This course provides an opportunity to participate in a variety of independent experiences (readings and study) in Kinesiology as directed by a faculty mentor.

Repeatability: This course may be repeated for additional credit.

KINS 4290. Special Topics in Kinesiology. 3 Credit Hours.

The focus of this course is a topic important to the discipline of Kinesiology or one of its subdisciplines. Different topics will be covered in different semesters. The emphasis will be on current trends and new knowledge as it relates to one or more of the critical areas of investigation in Kinesiology.

Repeatability: This course may be repeated for additional credit.

KINS 4311. Advanced Physiology of Exercise. 3 Credit Hours.

This course examines the interactive mechanisms of regulation of the metabolic, cardiovascular, pulmonary, and muscular/skeletal systems in response to an acute bout of exercise and as chronic adaptation to various types of exercise training regimens. Training principles for human performance and health/fitness promotion are derived based on these interactive physiological mechanisms and responses.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 2203 or 'Y' in CRKI05)

KINS 4312. Exercise and Nutrient Metabolism. 3 Credit Hours.

This course applies the physiological principles controlling the relationship between exercise and nutrition to metabolism, weight control/management, human performance, and disease processes. The mechanisms whereby exercise can be used in the prevention and treatment of various disease processes are discussed.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 4311 or 'Y' in CRKI16)

KINS 4313. Exercise and Aging. 3 Credit Hours.

This course examines the influence of exercise interventions on the aging process as indicated in current research. An examination of the scientific principles that govern aging and the influences of various modalities on these processes are also discussed.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 2203 or 'Y' in CRKI05)

KINS 4314. Principles of Personal Fitness. 4 Credit Hours.

The course involves an in-depth study of neuromuscular anatomy and physiology with special attention to the acquisition and expression of muscular strength. The scientific basis of muscle performance will be thoroughly investigated. Contemporary training theories for the modification of strength, endurance, speed and power of human skeletal muscle will be reviewed and the results applied to special populations across the movement spectrum. This course is designed to help students integrate and synthesize a large body of knowledge in regard to the role of strength in people's lives and how to best construct exercise-training programs whose outcomes aim to improve neuromuscular function. Via the laboratory component of this course, students will develop experience in exercise performance and exercise programming for optimal strength, endurance, speed and power as well as help prepare students pursuing the NSCA-Certified Personal Trainer (CPT) credential.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 2203 or 'Y' in CRKI05)

KINS 4315. Applied Performance Nutrition. 3 Credit Hours.

Applied Performance Nutrition seeks to address the unique nutritional demands of highly active and athletic populations. The course will provide undergraduate students who have an interest in working with a variety of athlete based populations the knowledge, skills, and abilities to perform a nutritional needs analysis for sport, develop a periodized nutrition plan, and differentiate the magnitude of factors leading to dietary success.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 4242, KINS 2203, 'Y' in CRK112, or 'Y' in CRK105)

KINS 4316. Principles of Strength and Conditioning. 4 Credit Hours.

The course involves an in-depth study of how to achieve high levels of human performance through evidence based training practices. The course is designed to outline how the fitness characteristics needed for success in sport, including endurance, strength, power, and speed can be achieved through a systematic periodized approach. The course will provide undergraduate students with an interest in coaching, sport, strength and conditioning, and athletic training specific programming knowledge and practice to increase physical preparation for success in sport performance. This course will prepare students with the knowledge, skills, and abilities to sit for National Strength and Conditioning Association (NSCA) Certified Strength and Conditioning Specialist (CSCS).

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 3316, KINS 4314, or 'Y' in CRK119)

KINS 4333. Clinical Cardiovascular Pulmonary Exercise Physiology. 3 Credit Hours.

The course explores the roles and responsibilities of the clinical exercise professional in performing clinical exercise test procedures and programming exercise for populations with specific known cardiovascular and pulmonary diseases.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 3203 (may be taken concurrently)

KINS 4334. Principles and Practices of Graded Exercise Testing and Exercise Program Development. 4 Credit Hours.

The course explores the role of exercise and wellness programming in health and disease. Techniques of functional capacity determination through exercise testing will be studied and practiced. Methods of quantifying the energy cost of activity and the development of exercise and wellness programs for people with known disease, those at high risk, and the apparently healthy individual will be emphasized. As the penultimate class in the student's program of study in Exercise and Sport Science, this class is designed to help students integrate and synthesize a large body of knowledge. The students will develop a strong rationale for the role of exercise and physical activity in the lives and health of all people. They will learn how to perform risk stratification and determine the necessity, if any, for closely supervised exercise programs. Specifically the students will develop expertise in exercise testing and exercise programming for one group or special population. They will demonstrate this expert knowledge through written as well as oral communication. NOTE: Lab fee required.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 3363 or 'Y' in CRK118) and (KINS 4311 or 'Y' in CRK116)

KINS 4335. Clinical Exercise Physiology. 3 Credit Hours.

This course explores the roles and responsibilities of the clinical exercise professional in performing clinical exercise test procedures and prescribing exercise programs in populations with specific known chronic diseases. The course will cover the basic pathophysiology of a wide variety of chronic diseases and disorders, the effect on the exercise response, and common management and medications. A review of the effects of exercise training will be conducted and recommendations regarding exercise testing and programming will be discussed for each disease/disorder. Diseases/disorders covered include cardiovascular disease, pulmonary disease, metabolic disease, immunological and hematological disorders, orthopedic diseases/disabilities, and neuromuscular disorders.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 3203 (may be taken concurrently)

KINS 4364. Business Management for Exercise Professionals. 3 Credit Hours.

This course will provide an overview of business management for exercise professionals. This course will build upon the foundational information that was introduced in Health Fitness Program Management and will provide students with critical skills for transitioning from an exercise professional to successful business manager. Topics will include managing human resources and financial resources, establishing policies for managing fitness facilities, and developing marketing plans to promote the business to potential clients. The use of effective communication for fostering an engaged workplace, as well as for developing professional relationships with other allied health professionals will be included.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 3368.

KINS 4385. Exercise and Sport Science Internship I. 3 Credit Hours.

This internship is part one of a two-course, culminating experience designed to provide hands-on, practical experiences for undergraduate Exercise and Sport Science students. Students will have the opportunity to apply their knowledge and advance their practical skills in a physical activity-related field under the supervision of a department faculty member and a site preceptor. As part of their internship experience, students will spend 10-15 hours per week working at their internship site. Class sessions will allow students to reflect on their internship experiences and integrate knowledge gained from their previous coursework. Throughout the semester, students will also examine topics related to interprofessional practice, as well as diversity, equity and inclusion at the internship site and in the field of physical activity.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 3203 (may be taken concurrently) and KINS 3316 (may be taken concurrently)

KINS 4396. Research and Writing in Exercise and Sport Science. 3 Credit Hours.

Research and Writing in Exercise and Sport Science introduces students to research methods and the application of research. The main topics of the course include a) developing research questions based on gaps in scientific literature, b) study designs, c) methods of data collection, d) statistical approaches to data analysis, e) writing a research grant proposal, f) presenting scientific literature, and e) ethical issues in research. This is a writing intensive course; writing assignments in this course will be completed and submitted in small groups to replicate the team writing approach most commonly used in the professional discipline of Exercise and Sport Science.

Course Attributes: WI

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 3196.

KINS 4485. Exercise and Sport Science Internship II. 3 Credit Hours.

This internship is part two of a two-course, culminating experience designed to provide hands-on, practical training for undergraduate Exercise and Sport Science students. Students will have the opportunity to apply their knowledge and advance their skills in a physical activity-related field under the supervision of a department faculty member and a site preceptor. As part of their internship experience, students will spend 10-15 hours per week working at their internship site. Class sessions will allow students to reflect on their internship experiences and integrate knowledge gained from their previous coursework as well as build upon the lessons learned from their first internship. Throughout the semester students will examine topics related to professional development in their chosen career path such as workplace competencies and certifications, communication strategies and leadership styles, and creating inclusive and equitable fitness environments.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 4385.

KINS 4501. Program Planning and Leading Physical Activity and Fitness. 3 Credit Hours.

Program Planning and Leading Physical Activity and Fitness examines how to effectively plan and safely lead physical activity and fitness programs for individuals with diverse backgrounds, abilities, and needs. The main topics of the course include: (a) determining clients' readiness to participate in physical activity and fitness programs, (b) planning physical activity and fitness programs, (c) instructional and motivational strategies for leading one-on-one and group-based physical activity and exercise sessions, and (d) safety precautions for leading physical activity and exercise sessions. The course will also introduce students to leadership roles and responsibilities of Kinesiology professionals whose work involves planning and leading physical activity and fitness programs in a variety of settings. Opportunities for students to plan and lead physical activity and exercise sessions are integrated into class meetings.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in KINS 3364.

KINS 4808. Sport Concussion. 3 Credit Hours.

This online course is designed to provide students information about sport concussion. It is designed for undergraduate and graduate students seeking to augment their sport concussion education. Students will receive targeted course lectures, readings, and online resources on topics such as concussion pathomechanics, pathophysiology, recognition, assessment, management, and return to play guidelines.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C in (KINS 1223, 'Y' in KIN1, or 'Y' in CRKI02)

KINS 5202. Biomechanical Skeletal Tissue. 3 Credit Hours.

This course offers an in-depth examination of the structure, composition, and material behavior of the basic skeletal tissues, including bone, cartilage, tendon, ligament, and muscle. The pathomechanics of injury, adaptation to loading, and degenerative changes associated with aging are analyzed.

Repeatability: This course may not be repeated for additional credits.

KINS 5237. Racial Minorities and Sport. 3 Credit Hours.

This dual-level course focuses on the positions and roles of African American and other persons of color in American sport. Topics to be covered assist in consciousness raising of both white students and students of color to the unique experiences and challenges of racial minority participants in sport.

Repeatability: This course may not be repeated for additional credits.

KINS 5239. Self-Development and Sport. 3 Credit Hours.

This group process experiential course focuses the student's attention on the patterns and practices of her/his own sport or exercise. Assessments of satisfaction and areas for change are followed by action plan development for future experiences.

Repeatability: This course may not be repeated for additional credits.

KINS 5311. Physiology of Exercise. 3 Credit Hours.

This course is a survey of the broad spectrum of exercise physiology. The physiology concepts presented are applied to research, rehabilitation, preventive medicine, and coaching. Such topics as nutrition and performance, weight control, stress testing, and ergogenic aids are discussed in detail. Basic laboratory techniques and classical experiments are demonstrated.

Repeatability: This course may not be repeated for additional credits.

KINS 5312. Exercise and Nutrient Metabolism. 3 Credit Hours.

The scientific principles controlling the relationship between exercise, nutrition, and weight control are examined. Special emphasis is directed toward the practical application of these principles for the development of individualized weight control programs.

Repeatability: This course may not be repeated for additional credits.

KINS 5313. Exercise and Aging. 3 Credit Hours.

This course offers a study of the potential influence of exercise on the aging process. The scientific principles that govern aging processes and the influences of exercise on these processes are reviewed as well as the development of exercise programs for geriatric populations.

Repeatability: This course may not be repeated for additional credits.

KINS 5333. Clinical Cardiovascular-Pulmonary Exercise Physiology. 3 Credit Hours.

The course explores the roles and responsibilities of the clinical exercise professional in performing clinical exercise test procedures and programming exercise for populations with specific known cardiovascular and pulmonary diseases. Accordingly, the student will apply their knowledge, skills, and abilities of exercise programming to populations with diverse cardiovascular and pulmonary diseases, in mostly lecture and a few isolated laboratory experiences. The course will cover the basic pathophysiology of a wide variety of cardiovascular and pulmonary diseases and disorders, methods of diagnosis, the effect on the exercise response, and common management and medications. A review of the effects of exercise training will be conducted and recommendations regarding exercise testing and programming will be discussed for each disease/disorder. Some CV diseases/disorders covered include atherosclerosis, acute coronary syndromes, heart revascularization, cardiac transplant, valvular disease, heart failure, severe cardiac dysrhythmias, hypertension, and peripheral artery disease. Some pulmonary diseases include COPD, asthma, cystic fibrosis, restrictive disease and lung transplant. Also, students will learn to conduct a complete clinical evaluation according to the American College of Sports Medicine (ACSM) guidelines and conduct a clinical graded exercise test with an appropriate protocol. The content of this course is found on the certification exam for the ACSM Clinical Exercise Physiologist.

Repeatability: This course may not be repeated for additional credits.

KINS 5335. Clinical Exercise Physiology. 3 Credit Hours.

While KINS 5333, Clinical Cardiovascular-Pulmonary Exercise Physiology focuses strictly on various types of CV and Pulmonary diseases, this course explores the roles and responsibilities of the clinical exercise professional in performing clinical exercise test procedures and prescribing exercise programs in populations with other specific known chronic diseases. Accordingly, the student will apply their knowledge, skills, and abilities to diseased populations in mostly lectures and an isolated laboratory experience. The course will cover the basic pathophysiology of a wide variety of chronic diseases and disorders, the effect on the exercise response, and common management and medications. A review of the effects of exercise training will be conducted and recommendations regarding exercise testing and programming will be discussed for each disease/disorder. Diseases/disorders covered include immunological, hematological, orthopedic, neuromuscular, cognitive and psychosocial disorders. Also, students will learn to conduct a complete clinical evaluation according to the American College of Sports Medicine (ACSM) guidelines and conduct a clinical graded exercise test with an appropriate protocol. The content of this course is found on the certification exam for the ACSM Clinical Exercise Physiologist.

Repeatability: This course may not be repeated for additional credits.

KINS 5987. Practicum in Athletic Training IV. 3 Credit Hours.

This three-credit course is designed to accompany the final of four clinical experiences in the athletic training curriculum to further develop and enhance the practical skills and knowledge necessary for clinical practice. Students will review and demonstrate organization and administration principles and applied research skills.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of B in KINS 5443, KINS 5644, and KINS 5687.

KINS 8500. Symposium in Kinesiology. 3 Credit Hours.

This course provides an opportunity for an in-depth examination of a special topic of interest, generally in a smaller class setting.

Repeatability: This course may be repeated for additional credit.

KINS 9201. Cardiovascular Exercise Physiology. 3 Credit Hours.

This is a comprehensive cardiovascular exercise physiology course that emphasizes the mechanisms of regulatory function of the cardiovascular system during acute physical activity and the mechanisms of the adaptive response to exercise training.

Repeatability: This course may not be repeated for additional credits.

KINS 9203. Appl Ex Physio-Neuromusc. 3 Credit Hours.

Principles of neurophysiological regulatory mechanisms of muscle contraction are the focus of this course. Skeletal muscle physiology, including muscle fiber types, neuromuscular junction, motor unit recruitment, and fatigue are discussed. Mechanisms of adaptation in skeletal muscles and the biomedical adaptations produced by increased and decreased use are also discussed, with emphasis on cell signaling and genomics.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: KINS 5311.

KINS 9204. Cellular Adapt to Exer. 3 Credit Hours.

This course examines control and regulatory mechanisms at the tissue and cellular levels during exercise. Mechanisms of adaptation in cells and tissues and the biomedical adaptations produced by training are discussed, with emphasis on genomics and cell signaling.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: (KINS 4311 or KINS 5311) and KINS 9203.

KINS 9205. Exercise Testing and Prescription. 3 Credit Hours.

This course enhances the knowledge and skills of persons interested in preventive and rehabilitative exercise programs. Exercise in the diagnosis, prevention, and rehabilitation of coronary heart disease, as well as the techniques of exercise stress testing are studied. Emphasis is placed on the development of exercise prescriptions from graded exercise test data.

Repeatability: This course may not be repeated for additional credits.

KINS 9287. Athletic Training/Sports Medicine Practicum I. 1 to 6 Credit Hour.

This is a practicum in which the student satisfies the 200-hour requirement by serving as an athletic trainer in a NATA-approved allied-health setting such as the Temple University Sports Medicine Clinics. Students perform athletic training duties under the supervision of certified athletic trainers and orthopedic surgeons.

Repeatability: This course may be repeated for additional credit.

KINS 9288. Athletic Training/Sports Medicine Practicum II. 1 to 6 Credit Hour.

As a continuation of KINS 9287, in this practicum the student further satisfies the 200-hour requirement by serving as an athletic trainer in a NATA-approved allied health setting such as the Temple University Sports Medicine Clinics. Students perform athletic training duties under the supervision of certified athletic trainers and orthopedic surgeons.

Repeatability: This course may be repeated for additional credit.

KINS 9301. Motor Development. 3 Credit Hours.

This course is designed to study human movement across the lifespan through the review and critique of major theoretical positions and the analysis of selected movement patterns.

Repeatability: This course may not be repeated for additional credits.

KINS 9302. Motor Learning. 3 Credit Hours.

This course is designed to study the acquisition and retention of motor skills as related to practice schedules, information processing, and motor control.

Repeatability: This course may not be repeated for additional credits.

KINS 9311. Biomechanics: Human Movement. 3 Credit Hours.

This course offers an assessment of research in the biomechanics of human motion, including electromyography, muscle modeling, link segment modeling and analysis, and energy and power analysis. The above concepts are utilized in the assessment of both normal and atypical populations in sport and rehabilitation contexts.

Repeatability: This course may not be repeated for additional credits.

KINS 9401. Psychological Bases of Motor Behavior. 3 Credit Hours.

This course focuses on the psychology of motor behavior, with particular emphasis on motor learning and motor development.

Repeatability: This course may not be repeated for additional credits.

KINS 9402. Psychology of Human Motivation and Development. 3 Credit Hours.

This course focuses on the basic psychological variables that influence, and are influenced by, human movement. A diverse set of topics within exercise and sport psychology is explored.

Repeatability: This course may not be repeated for additional credits.

KINS 9403. Sociology of Kinesiology. 3 Credit Hours.

This course focuses on the social structural/contextual variables that influence, and are influenced by, human movement. Among the variables examined are socioeconomic status, gender, race, ethnicity, sexual preference, dominant-subordinate perceptions, and value formation and conflict.

Repeatability: This course may not be repeated for additional credits.

KINS 9404. Exercise and Mental Health. 3 Credit Hours.

This course provides the student with a background in theory, research, and applied work in the relationship between exercise and mental health.

Repeatability: This course may not be repeated for additional credits.

KINS 9407. Obesity and Eating Disorders. 3 Credit Hours.

This course aims to provide a comprehensive understanding of obesity and eating disorders. It focuses on kinesiology and its relation to the etiology of the disorder, its prevalence, classification, diagnosis, treatment and prevention. These issues are discussed in terms of their psychosocial, behavioral, and physiological aspects.

Repeatability: This course may not be repeated for additional credits.

KINS 9683. Mentored Research I. 3 Credit Hours.

This course exposes the Ph.D. student to the basic nature of behavioral and somatic science research. Learning experiences consist of journal article review, laboratory/field techniques, and subject or data collection exposure as directed by faculty mentors.

Repeatability: This course may be repeated for additional credit.

KINS 9783. Mentored Research II. 3 Credit Hours.

This course provides the Ph.D. student with the opportunity to be involved in research, under the direction of the faculty mentor, as the assistant project director and as the project director for pilot studies. The student gains experience in these roles with close supervision by the faculty mentor.

Repeatability: This course may be repeated for additional credit.

Pre-requisites: Minimum grade of B- in KINS 9683.

KINS 9785. Internship in Kinesiology. 3 to 6 Credit Hours.

This course provides supervised field and/or clinical experiences in psychological aspects of sport/physical activity, and exercise science.

Repeatability: This course may be repeated for additional credit.

KINS 9882. Independent Research. 1 to 12 Credit Hour.

This course allows students to engage in independent research. Students present a proposal to the instructor, who advises them on their project. Prior to registration, students obtain a letter of agreement from the department chair indicating the number of credits involved.

Repeatability: This course may be repeated for additional credit.

KINS 9901. Research Methods in Kinesiology. 3 Credit Hours.

This course focuses on basic understanding of research methods and related techniques necessary to evaluate research literature in physical education and related fields. Attention is given to the selection of research problems.

Repeatability: This course may not be repeated for additional credits.

KINS 9994. Preliminary Examination Preparation. 1 to 3 Credit Hour.

This course is for students who have completed all coursework and have not passed the preliminary examination.

Repeatability: This course may be repeated for additional credit.

KINS 9995. Master's Research in Kinesiology. 1 to 3 Credit Hour.

This course is open to Master of Science candidates doing either the project option or the first three credits of the thesis option.

Repeatability: This course may be repeated for additional credit.

KINS 9996. Master's Thesis in Kinesiology. 1 to 3 Credit Hour.

This course is open only to Master of Science candidates completing the last three credits of the thesis option.

Repeatability: This course may be repeated for additional credit.

KINS 9998. Dissertation Proposal Research. 1 or 2 Credit Hour.

This course supports preparation of the dissertation proposal. The course is required for students who have passed the preliminary examinations for their PhD program and who have not yet defended the dissertation proposal.

Repeatability: This course may be repeated for additional credit.

Pre-requisites: Minimum grade of P in KINS 9994.

KINS 9999. Doctoral Dissertation in Kinesiology. 1 to 9 Credit Hour.

This course is limited to candidates for the doctoral degree. This offers continuous registration during the fall and spring terms as required from after completion of the preliminary examination until the dissertation has been completed and accepted by the graduate faculty.

Repeatability: This course may be repeated for additional credit.