

KINESIOLOGY (KIN)

Courses primarily for undergraduates:

KIN 1010: Swimming I

Credits: 1. Contact Hours: Laboratory 3.

Basic course for nonswimmers. Emphasis on two fundamental strokes and personal water safety skills. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1020: Swimming II

Credits: 1. Contact Hours: Laboratory 3.

Prereq: KIN 1010

Intermediate course. Emphasis on learning and improving five basic strokes and personal water safety skills. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 1080: Aquatic Fitness

Credits: 1. Contact Hours: Laboratory 3.

Prereq: KIN 1020 or *Permission of Instructor*

Water related exercises, activities, and swimming workouts to improve physical fitness. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 1220: Badminton

Credits: 1. Contact Hours: Laboratory 2.

Introduction to fundamental badminton skills and strategic game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1290: Bowling

Credits: 1. Contact Hours: Laboratory 2.

Introduction to bowling skills and strategic game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1350: Golf

Credits: 1. Contact Hours: Laboratory 2.

Introduction to fundamental golf skills and strategic game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1440: Racquetball

Credits: 1. Contact Hours: Laboratory 2.

Introduction to fundamental racquetball skills and strategic game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1530: Ice Skating

Credits: 1. Contact Hours: Laboratory 2.

Introduction to fundamental ice skating skills and strategic game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1580: Tennis

Credits: 1. Contact Hours: Laboratory 2.

Introduction to basic skills (forehand, backhand, service) and basic knowledge of game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1630: Physical Fitness

Credits: 1. Contact Hours: Laboratory 3.

Evaluation of fitness status. Exercises, activities, and programs to improve physical fitness. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1640: Walking for Fitness

Credits: 1. Contact Hours: Laboratory 3.

Fitness walking as an activity to improve health and fitness; values of this type of activity as a lifetime endeavor with knowledge and usage of pedometers. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1650: Running for Fitness

Credits: 1. Contact Hours: Laboratory 2.

Running as a physical activity to improve physical fitness and health. Promotion of this activity as a lifetime endeavor. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1660: Weight Training

Credits: 1. Contact Hours: Laboratory 3.

Introduction to fundamental skills of weight training and strategic game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1680: Judo

Credits: 1.

Fundamentals of self defense, focusing on throwing with the hands, hips and feet as well as applying pins, chokes and arm-bars. The physical skills will be taught focused on training through development of courtesy, integrity, perseverance, self control, & indomitable spirit. Emphasis on learning a way of life that promotes personal development, physical health and citizenship. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1700: Tae Kwon Do/Karate I

Credits: 1. Contact Hours: Laboratory 2.

Teaches fundamentals of self-defense, focusing on hand and foot striking and blocking techniques. The physical skills will be taught focused on training through development of courtesy, integrity, perseverance, self-control and indomitable spirit. It will be emphasized that each student learns a way of life that promotes personal development, physical health and citizenship. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 1710: Tae Kwon Do/Karate II

Credits: 1. Contact Hours: Laboratory 2.

Teaches advanced application of self-defense focusing on hand and foot striking and blocking techniques. The physical skills will be taught focused on training through development of courtesy, integrity, perseverance, self-control and indomitable spirit. It will be emphasized that each student learns a way of life that promotes personal development, physical health and citizenship. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 1730: Hap Ki Do/Martial Self-Defense

Credits: 1. Contact Hours: Laboratory 2.

Teaches fundamentals of self-defense focusing on joint locks, pressure points and throwing techniques to escape from an attacker. The physical skills will be taught focused on training through development of courtesy, integrity, perseverance, self-control and indomitable spirit. It will be emphasized that each student learns a way of life that promotes personal development, physical health & citizenship. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 1820: Volleyball

Credits: 1. Contact Hours: Laboratory 2.

Introduction to fundamental volleyball skills and strategic game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 1850: Soccer

Credits: 1. Contact Hours: Laboratory 2.

Introduction to fundamental soccer skills and strategic game play. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 2100: Concepts of Fitness and Wellness

Credits: 2. Contact Hours: Lecture 2.

Coverage of behavioral skills needed to adopt and maintain lifestyles conducive to fitness and wellness. Provides students with knowledge and skills needed to adopt and maintain healthy lifestyles. Includes self-assessments and content on physical activity, nutrition, weight control, stress management and other lifestyle behaviors related to health. For non-kinesiology majors. (Typically Offered: Fall, Spring)

KIN 2310: Fundamentals of Tumbling and Gymnastics

Credits: 1. Contact Hours: Laboratory 3.

Prereq: Physical Education Teacher Education Specialization

Fundamentals of tumbling and gymnastics apparatus. Skill enhancement, analysis, understanding practice and the development of progressions. (Typically Offered: Fall)

KIN 2320: Fundamentals of Team Sports

Credits: 1. Contact Hours: Laboratory 3.

Prereq: Physical Education Teacher Education Specialization

Fundamentals of indoor and outdoor team sports, for example basketball, volleyball, flag football, and soccer. Skill enhancement, analysis, understanding practice and the development of progressions. (Typically Offered: Fall)

KIN 2360: Fundamentals of Individual Sports and Fitness

Credits: 1. Contact Hours: Laboratory 3.

Prereq: Physical Education Teacher Education Specialization

Fundamentals of individual sports and fitness, for example disc golf, bowling, badminton, and weight training. Skill enhancement, analysis, understanding practice and the development of progressions. (Typically Offered: Spring)

KIN 2420: Planning for Success in a Health Career

Credits: 0.5. Contact Hours: Lecture 0.5.

Prereq: Pre-Health Professions Specialization; Sophomore classification

Reflection and discovery to better understand skills needed for admission to professional and graduate school. Facilitate preparation of relevant materials and develop professional school admission strategies. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 2520: Introduction to the Discipline of Kinesiology

Credits: 1. Contact Hours: Lecture 1.

Relevant societal issues and research within the discipline of Kinesiology (the study of movement) are addressed. (Typically Offered: Fall, Spring)

KIN 2530: Orientation and Learning Community in Kinesiology and Health

Credits: 1. Contact Hours: Lecture 1.

Overview of ISU policies and procedures, academic advising operations, degree requirements, program of study planning, and campus resources. Students will have out-of-class activities and work with faculty, staff and mentors to explore careers in Kinesiology and complete assignments related to identification & development of their skills and interests. Department of Kinesiology students only. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 2580: Principles of Physical Fitness and Conditioning

Credits: 2. Contact Hours: Lecture 1, Laboratory 3.

Introduction to five components of fitness: cardiorespiratory, muscular strength, muscular endurance, flexibility, and body composition. Students will be introduced to basic exercise prescription and evaluation principles, develop skills to assess each component of fitness, and learn different exercise modalities to enhance each component. (Typically Offered: Fall, Spring)

KIN 2590: Leadership Techniques for Fitness Programs

Credits: 3. Contact Hours: Lecture 2, Laboratory 2.

Prereq: KIN 2580

Development of exercise leadership skills for a variety of activities. Includes planning, promotion, and teaching techniques for developing fitness in others using a variety of exercise modalities including group fitness and weight training. Kinesiology and health majors only. (Typically Offered: Fall, Spring)

KIN 2660: Advanced Strength Training and Conditioning

Credits: 2. Contact Hours: Lecture 1, Laboratory 2.

Prereq: KIN 2580

This course is designed to enhance the student's current level of knowledge and expertise to an advanced level in the area of strength training and conditioning. The course will prepare students interested in taking the National Strength and Conditioning Association Certified and Conditioning Specialist's exam. The course will focus on the assessment and implementation of training programs with strong emphasis on the areas of resistance training, metabolic training, flexibility, reaction time, speed, and agility. Kinesiology and health majors only and permission of instructor needed. (Typically Offered: Fall, Spring)

KIN 2800: Directed Field Experience in Elementary Physical Education

Credits: 1.

Prereq: Physical Education Teacher Education Specialization

Observing, planning, and facilitating movement experiences of children in an elementary school setting. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 2810: Directed Field Experience in Secondary Physical Education

Credits: 1.

Prereq: Physical Education Teacher Education Specialization

Observing, planning, and facilitating movement experiences of students in a middle and/or high school setting. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 2820: Field Experience with Educational Outreach

Credits: 1.

Prereq: Admitted to the Educator Preparation Program

Planning and facilitating physical education experiences for children in a community outreach setting. Experiences take place on campus. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 2840: Elementary and Pre-school Movement Education

Credits: 3.

Prereq: 3 credits in HDFS

Approaches to teaching movement skills, health-related fitness and school-based physical activities (in the classroom, in PE, during recess) to pre-school and elementary school age children are covered. Emphasis is placed on planning and conducting developmentally appropriate movement experiences for preschool and elementary aged children throughout the school day based upon educational psychology, exercise psychology and motor development research. Practical experience is provided. (Typically Offered: Fall, Spring)

KIN 2850: Pre-Internship in Kinesiology and Health

(Cross-listed with HS 2850).

Credits: 1-2.

Prereq: Kinesiology and Health major; credit or concurrent enrollment in KIN 2580; Permission of Internship Coordinator

Pre-internship experience with a health organization based on option. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 2900: Independent Study

Credits: 1. Repeatable, maximum of 3 credits.

Prereq: 2nd semester Freshmen or Sophomore classification; Permission of Instructor

Study under supervision of faculty. (Typically Offered: Fall, Spring)

KIN 3120: Movement Education in Elementary School Physical Education

Credits: 3.

Prereq: Admitted to the Educator Preparation Program

Planning for management and instruction of developmentally appropriate physical education for children pre-school through grade six. Laboratory experience required. Graduation Restriction: Credit for only one of KIN 2840 or KIN 3120 may be applied toward graduation. (Typically Offered: Fall)

KIN 3130: Teaching Secondary Physical Education

Credits: 3. Contact Hours: Lecture 2, Laboratory 3.

Prereq: Admitted to the Educator Preparation Program

Current theory, practice and research on teaching focusing on management, instructional, and learning styles of students in secondary schools. (Typically Offered: Spring)

KIN 3150: Coaching Theory and Administrative Issues

Credits: 3. Contact Hours: Lecture 3.

Study in the theory, ethics, strategy, and mechanics of coaching various interscholastic and/or intercollegiate sports. Emphasis on formulating a philosophy, identifying goals and psychological aspects, teaching skills, and developing strategies. (Typically Offered: Fall, Spring, Summer)

KIN 3450: Management of Health-Fitness Programs and Facilities

Credits: 3. Contact Hours: Lecture 3.

Application of management concepts to the fitness industry, e.g., understanding customers, marketing, program management, financial management, legal issues, and evaluation and planning. (Typically Offered: Fall, Spring, Summer)

KIN 3550: Biomechanics

Credits: 3. Contact Hours: Lecture 3.

Prereq: PHYS 1150 or PHYS 1310

Mechanical basis of human performance; application of mechanical principles to exercise, sport and other physical activities. (Typically Offered: Fall, Spring, Summer)

KIN 3580: Exercise Physiology

Credits: 3. Contact Hours: Lecture 3.

Prereq: BIOL 2550 and BIOL 2560

Physiological basis of human performance; effects of physical activity on body functions. (Typically Offered: Fall, Spring, Summer)

KIN 3590: Exercise Physiology Lab

Credits: 1. Contact Hours: Laboratory 2.

Prereq: Credit or concurrent enrollment in KIN 3580

Learning lab techniques in Exercise Physiology and engaging in the experimental process. (Typically Offered: Fall, Spring, Summer)

KIN 3600: Sociology of Physical Activity and Health

Credits: 3. Contact Hours: Lecture 3.

Prereq: SOC 1340

Provide an overview of sociology to enhance students understanding of societal forces influencing behavior; Provide insights about people, environments, organization and policies that impact Kinesiology professionals. Meets U.S. Cultures and Communities (formerly U.S. Diversity) Requirement. (Typically Offered: Fall, Spring)

KIN 3630: Basic Electrocardiography

Credits: 2. Contact Hours: Lecture 2.

Understanding of human electrocardiography, including normal and abnormal 12-lead ECGs and arrhythmia identification. Offered even-numbered years. (Typically Offered: Fall, Spring)

KIN 3650: Sport Psychology

Credits: 3. Contact Hours: Lecture 3.

Prereq: PSYCH 1010 or PSYCH 2300

Psychological factors that influence performance in sport settings. The influence of personality, anxiety, motivation and social factors. Psychological skills training and strategic methods for improvement of athletic performance. (Typically Offered: Fall, Spring, Summer)

KIN 3660: Exercise Psychology

Credits: 3. Contact Hours: Lecture 3.

Prereq: PSYCH 1010 or PSYCH 2300

Psychological theories for understanding and predicting health-oriented exercise behavior. Psychological and psychobiological responses to exercise. Psychological interventions for increasing exercise participation and adherence rates. (Typically Offered: Fall, Spring, Summer)

KIN 3720: Motor Control and Learning Across the Lifespan

Credits: 3. Contact Hours: Lecture 3.

Prereq: BIOL 2550, BIOL 2560, (PSYCH 1010 or PSYCH 2300)

Introduction to major concepts of neuromotor control, behavioral motor control and motor learning in the child, adult and older adult, with emphasis on the adult system. (Typically Offered: Fall, Spring, Summer)

KIN 3730: Biomechanics and Motor Control Laboratory

Credits: 1. Contact Hours: Laboratory 2.

Prereq: Credit or concurrent enrollment in (KIN 3550; KIN 3720)

Introduction to lab techniques in Biomechanics and Motor Control by engaging in the experimental process. Reinforces and integrates concepts from KIN 3550 and KIN 3720. Performance of hands-on collection of biomechanical and motor control data and analysis and explanation of human movement from mechanical, behavioral, and neural perspectives.

KIN 3810A: Study Abroad Experience in Kinesiology: Preparing for the Experience

Credits: 1. Contact Hours: Lecture 1.

Prereq: KIN 2520; KIN 2530; major in ATR or KIN; Sophomore classification; minimum GPA of 2.5

Prepares student for a study abroad experience focused on the discipline of Kinesiology in another country. Precedes a multi-credit KIN 3810B course that is the actual study abroad experience. The prerequisite for this course is having been accepted to study abroad by the Program Director of your intended program. Offered even-numbered years. Meets International Perspectives Requirement. Offered on a satisfactory-fail basis only. (Typically Offered: Spring)

KIN 3810B: Study Abroad Experience In Kinesiology

Credits: 2.

Prereq: KIN 3810A; Permission of Instructor

First-person perspective into the discipline of Kinesiology in another country as well as provide enrichment experiences related to the history and culture of that country. Follows a 1 credit KIN 3810A course that was intended to prepare you for this study abroad experience. Offered even-numbered years. Meets International Perspectives Requirement. (Typically Offered: Summer)

KIN 3850: Preparation and Search Strategies for Kinesiology and Health Internships

(Cross-listed with HS 3850).

Credits: 0.5. Contact Hours: Lecture 0.5.

Prereq: Junior classification

Preparation of relevant material for a successful internship/career search. Specific internship timeline, process, procedures will be reviewed. Course needs to be taken a minimum of two semesters prior to required internship. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 3910: Service Learning Leadership Experience

Credits: 1-3. Repeatable, maximum of 6 credits.

Applied service learning experiences designed to provide students with opportunities to apply classroom knowledge to real world applications. Students will gain professional skills and programming experience while supporting health, education and wellness programming in school, work site or community settings. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring)

KIN 3950: Adapted Physical Education

(Dual-listed with KIN 5950).

Credits: 3. Contact Hours: Lecture 2, Laboratory 2.

Prereq: Admitted to the Educator Preparation Program

Etiology, characteristics, needs, and movement experiences for individuals with disabilities. Designed to provide appropriate methods of physical education instruction for students including those with disabilities as identified by the Individuals with Disabilities Education Act and students who are talented and gifted. Assessments and strategies to differentiate instruction and to adapt activities for all exceptional learners will be addressed. Laboratory experience required. Graduation Restriction: KIN 5950 may not be taken by students who previously earned credit in KIN 3950. (Typically Offered: Fall)

KIN 3990: Recreational Sport Management

Credits: 3. Contact Hours: Lecture 3.

The role of sport in developing fitness, recreational opportunities, and tourism, with special emphasis on issues related to youth sport, volunteerism, and the marketing of sport events and facilities. (Typically Offered: Fall)

KIN 4170: Supervised Teaching in Physical Education in the Secondary School

Credits: 1-30.

Supervised teaching in the secondary schools. (Typically Offered: Fall, Spring)

KIN 4180: Supervised Teaching in Physical Education in the Elementary School

Credits: 8.

Supervised teaching in the elementary schools. (Typically Offered: Fall, Spring)

KIN 4550: Research Topics in Biomechanics

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3550 or Permission of Instructor

Examination of biomechanics and kinesiology research literature to evaluate the application of mechanical principles and analyses to human movement in exercise, sport, physical activity, and activities of daily living and to assess research outcomes and their implications for motor performance, movement energetic, musculoskeletal loading, and injury.

KIN 4580: Principles of Fitness Assessment and Exercise Prescription

Credits: 4. Contact Hours: Lecture 3, Laboratory 2.

Prereq: Minimum of C- in KIN 3580

Principles of cardiac risk factor identification and modification; risk classification of potential exercise clients; fitness assessments; developing comprehensive exercise prescriptions for individuals. (Typically Offered: Fall, Spring)

KIN 4590: Internship in Exercise Leadership

Credits: 1. Contact Hours: Laboratory 3.

Observation and practice of exercise leadership techniques in an on-campus adult fitness program. (Typically Offered: Fall, Spring)

KIN 4620: Medical Aspects of Exercise

Credits: 3. Contact Hours: Lecture 3.

Prereq: Minimum of C- in KIN 3580

The role of exercise in preventive medicine. Impact of exercise on various diseases, and the effect of various medical conditions on the ability to participate in vigorous exercise and competitive sports. Principles of exercise testing and prescription for individuals with these conditions. Environmental and nutritional aspects of exercise. (Typically Offered: Fall, Spring)

KIN 4660: Exercise for Mental Health

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3660 or Senior classification in Psychology or Permission of Instructor

Understand the state-of-the-knowledge of the mental health benefits of physical activity both in the prevention and in the treatment of clinical mental health and other psychological conditions. Focus on both the neurobiological bases of mental health disorders and the effects of exercise on these factors. Practical approach to encouraging changes in physical activity across populations suffering from psychological disturbances as part of treatment. (Typically Offered: Spring)

KIN 4670: Exercise and Health: Behavior Change

(Dual-listed with KIN 5670).

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3660 or *Permission of Instructor*

Advanced analysis of theoretical health behavior models and their application to physical activity behavior. Includes practical techniques, tools and interventions (e.g., counseling skills, motivational interviewing) to enhance exercise prescription and motivation, and considerations for working with special populations. (Typically Offered: Fall, Spring)

KIN 4710: Measurement in Physical Education

(Dual-listed with KIN 5710).

Credits: 3. Contact Hours: Lecture 3.

Prereq: *Admitted to the Educator Preparation Program*

Current theory, practice and research on measurement and evaluation in physical education and youth physical activity settings. Statistics, grading, and specific assessments including fitness, motor skill, sport skill, physical activity, affective, and cognitive testing will be addressed. Graduation Restriction: KIN 5710 may not be taken by students who previously earned credit in KIN 4710. (Typically Offered: Spring)

KIN 4720: Neural Basis of Human Movement

(Dual-listed with KIN 5720).

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3720 or PSYCH 3100

Addresses the role of the central nervous system in the control of voluntary human movement, with the focus on the cerebral cortex, basal ganglia and cerebellum. Content organized around specific nervous system damage (such as stroke, apraxia, spasticity, or spinal cord damage) and functional movements (such as reaching and grasping, balance and gait). Converging evidence from human movement disorders, brain imaging, animal lesion and single cell studies provide the primary basis for the content. (Typically Offered: Fall, Spring)

KIN 4730: Physical Dimensions of Aging

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3550 or KIN 3580 or KIN 3720

Understanding the physiological, behavioral, and cognitive changes associated with aging with focus on the effects of physical activity on the aging human system. Discussions of what it means to become older, what a person can expect during the aging process, and what kind of control a person has over the aging process. (Typically Offered: Spring)

KIN 4740X: Music and Neuroscience

(Cross-listed with MUSIC 4740X).

Credits: 3. Contact Hours: Lecture 3.

Understanding how music is processed in the brain and the implications for healthy care and education. Online discussions about how music changes all aspects of the brain from neurotransmitters to cortical reorganization. (Typically Offered: Fall)

KIN 4750: Physical Education Curriculum Design and Program Organization

(Dual-listed with KIN 5750).

Credits: 3. Contact Hours: Lecture 3.

Current theory, practices and principles applied to curriculum development for programs in physical education, K-12. Organizing for teaching in a variety of school settings. (Typically Offered: Fall)

KIN 4800: Functional Anatomy

Credits: 3. Contact Hours: Lecture 3.

Prereq: (BIOL 1550 or BIOL 2550); BIOL 2560; KIN 3550

The structure and function of human muscular, skeletal and nervous systems. The relationship of these systems to efficient and safe human motion. (Typically Offered: Fall, Spring)

KIN 4810: Biomechanics Lab

Credits: 1. Contact Hours: Laboratory 2.

Learning lab techniques in Biomechanics and engaging in the experimental process.

KIN 4830: Exercise Psychology Lab

Credits: 1. Contact Hours: Laboratory 2.

Learning lab techniques in Exercise Psychology and engaging in the experimental process.

KIN 4840: Assessment and Control of Locomotion

Credits: 1. Contact Hours: Laboratory 2.

Learning lab techniques in Motor Control and engaging in the experimental process.

KIN 4850A: Internship in Exercise Science

Credits: 8-12. Repeatable.

Prereq: *Senior classification; Exercise Science specialization; C- or better in (KIN 3550; KIN 3580; KIN 3590; KIN 3660; KIN 3720; KIN 4580; KIN 4590; KIN 4620; HS 3500); Cumulative GPA 2.0; Permission of Internship Coordinator*

Observation and practice in selected exercise science agencies. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 4900A: Independent Study: Exercise and Sport Science

Credits: 1-3. Repeatable, maximum of 6 credits.

Prereq: *Instructor Permission for Course*

Independent study of problems of areas of interest in exercise and sport science and related areas. 6 credits from KIN advanced core recommended. (Typically Offered: Fall, Spring, Summer)

KIN 4900H: Independent Study

Credits: 1-2. Repeatable, maximum of 4 credits.

Prereq: Instructor Permission for Course

Independent study of problems of areas of interest in exercise and sport science and related areas. 6 credits from KIN advanced core recommended. (Typically Offered: Fall, Spring, Summer)

KIN 4910: Undergraduate Teaching Experience

Credits: 1-2. Repeatable, maximum of 6 credits.

Prereq: Permission of Instructor; Junior classification

Undergraduate teaching assistant opportunity in Kinesiology. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 4940A: Practicum in Motivational Interviewing for Health: Principles of Motivational Interviewing

Credits: 1. Contact Hours: Lecture 1.

Prereq: Permission of Instructor; Junior classification

Introduction to the principles of 'motivational interviewing' for behavior change and health coaching applications. Students interested in gaining practical experience in health coaching should enroll in the associated practicum course (KIN 4940B). Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 4940B: Practicum in Motivational Interviewing for Health: Supervised Experience

Credits: 1-2. Contact Hours: Laboratory 4.

Repeatable, maximum of 5 credits.

Prereq: KIN 4940A; Permission of Instructor

This supervised practicum course is designed for students interested in gaining experience in applying 'motivational interviewing' strategies in behavior change and health coaching applications. Students will have opportunities to practice motivational interviewing skills with adult clients and receive on-going support and assistance needed to refine their skills. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 4950: Special Topics in Kinesiology

Credits: 1-3. Contact Hours: Lecture 3.

Prereq: Junior classification or above

Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

Courses primarily for graduate students, open to qualified undergraduates:

KIN 5010: Research Methods in Physical Activity

Credits: 3. Contact Hours: Lecture 3.

Repeatable.

Prereq: Graduate classification

Methods and techniques used in the design and interpretation of research involving physical activity. Emphasis on styles of writing, library use, and computer applications.

KIN 5050: Research Laboratory Techniques in Exercise Physiology

Credits: 3. Contact Hours: Lecture 1, Laboratory 4.

Prereq: KIN 3580

Application and use of laboratory research equipment in exercise physiology, including operation, calibration, and use in selected situations.

KIN 5100: Advanced Medical Aspects of Exercise

Credits: 2. Contact Hours: Lecture 2.

The role of exercise in preventive medicine. Impact of exercise on various diseases, and the effect of various medical conditions on the ability to participate in vigorous exercise and competitive sports. Principles of exercise testing and prescription for individuals with these conditions.

KIN 5110: Physical Activity Strategies for Youth

Credits: 3. Contact Hours: Lecture 3.

Provide adequate opportunities to develop a more in-depth understanding of (a) the challenges in youth physical activity (PA), (b) the relevant theoretical models that are popular in youth PA, (c) the strategies that can be implemented to promote PA in youth.

KIN 5120: Movement Education in Elementary School Physical Education

Credits: 3.

Planning for management and instruction of developmentally appropriate physical education for children pre-school through grade six. Laboratory experience required. Emphasis on evaluating published research on physical education and school-wide physical activity. (Typically Offered: Fall)

KIN 5150: Injury Biomechanics

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3550 or Permission of Instructor

Utilization of biomechanical principles to model injury mechanisms. Introduction to tissue mechanics of bone, articular cartilage, ligament, tendon, muscle, and nerve. Biomechanics of lower extremity, upper extremity, and head/neck/trunk injuries. Offered odd-numbered years. (Typically Offered: Fall)

KIN 5160: Quantitative Analysis of Human Movement

Credits: 3. Contact Hours: Lecture 3, Laboratory 1.

Prereq: KIN 3550

Application of the principles of mechanics to the analysis of human motion. Investigation of the effects of kinematics and kinetics on the human body with special emphasis on exercise and sport applications. Includes consideration of two-dimensional and three-dimensional imaging techniques and force measurements.

KIN 5170: Musculoskeletal Modeling

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3550 or *Permission of Instructor*

Systematic problem-solving approaches and design of computer programs for biomechanical analyses. Estimation of anthropometric parameters and mechanical properties of muscles, bones, and joints. Integration of anthropometrics, kinematics, EMG, and muscle mechanics into simulations of human movement. Offered even-numbered years. (Typically Offered: Fall)

KIN 5180: Student Teaching in Elementary Physical Education

Credits: 8.

Prereq: KIN 5120, KIN 5700, KIN 5750

Student teaching for 8 weeks in an elementary school. (Typically Offered: Fall, Spring)

KIN 5190: Student Teaching in Secondary Physical Education

Credits: 8.

Prereq: KIN 5120, KIN 5700, KIN 5750

Student teaching for 8 weeks in a middle or high school. (Typically Offered: Fall, Spring)

KIN 5210: Advanced Topics in Exercise and Sport Psychology

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3650 or KIN 3660, 3 courses in psychology; open to Kin majors only

Aspects of psychology which form a basis for understanding and explaining behavior in the context of exercise and sport. Emphasis on evaluating published research, particularly theory and research methodology. Student presentations.

KIN 5490: Advanced Vertebrate Physiology I

(Cross-listed with ANS 5490/ NUTRS 5490).

Credits: 4. Contact Hours: Lecture 4.

Prereq: Undergraduate course in Physiology and Biochemistry

Overview of mammalian physiology. Cell biology, endocrinology, cardiovascular, respiratory, immune, digestive, skeletal muscle and reproductive systems. (Typically Offered: Fall)

KIN 5500: Advanced Physiology of Exercise I

Credits: 3. Contact Hours: Lecture 2, Laboratory 3.

Prereq: KIN 5050

Analysis of factors affecting work capacity and performance. Concepts and measurement of human energy metabolism and bioenergetic adaptations to training.

KIN 5510: Advanced Physiology of Exercise II

Credits: 3. Contact Hours: Lecture 2, Laboratory 3.

Prereq: KIN 5050

Analysis of factors affecting cardiovascular and respiratory function in response to multiple stressors including exercise. Influence of environment will also be discussed.

KIN 5600: Principles of Neuromotor Control and Learning

Credits: 3. Contact Hours: Laboratory 3, Lecture 2.

Prereq: KIN 3720

Theoretical perspectives of neuromotor control and learning will be examined as well as factors that facilitate motor learning. Neuromotor control and learning will also be addressed by studying functional tasks such as reach-to-grasp and locomotion.

KIN 5610: Motor Development and Physical Activity

Credits: 2-3. Contact Hours: Lecture 2.

Prereq: PSYCH 2300

Addresses theories and underlying mechanisms of motor development and motor control applied to typically and atypically developing children. Developmental control of balance, locomotion, reach-to-grasp, and other functional skills will be discussed, as will the role of physical activity in a child's life.

KIN 5670: Exercise and Health: Behavior Change

(Dual-listed with KIN 4670).

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3660 or *Permission of Instructor*

Advanced analysis of theoretical health behavior models and their application to physical activity behavior. Includes practical techniques, tools and interventions (e.g., counseling skills, motivational interviewing) to enhance exercise prescription and motivation, and considerations for working with special populations. (Typically Offered: Fall, Spring)

KIN 5700: Physical Activity Assessment for Health Related Research

Credits: 3. Contact Hours: Lecture 2, Laboratory 2.

This course will cover the broad scope of research in physical activity and public health. Emphasis will be placed on the application of physical activity assessment techniques since accurate measures are needed to more accurately assess the health benefits from physical activity and to evaluate the effectiveness of behavioral interventions designed to promote physical activity.

KIN 5710: Measurement in Physical Education

(Dual-listed with KIN 4710).

Credits: 3. Contact Hours: Lecture 3.

Current theory, practice and research on measurement and evaluation in physical education and youth physical activity settings. Statistics, grading, and specific assessments including fitness, motor skill, sport skill, physical activity, affective, and cognitive testing will be addressed. Graduation Restriction: KIN 5710 may not be taken by students who previously earned credit in KIN 4710. (Typically Offered: Spring)

KIN 5720: Neural Basis of Human Movement

(Dual-listed with KIN 4720).

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 3720 or PSYCH 3100

Addresses the role of the central nervous system in the control of voluntary human movement, with the focus on the cerebral cortex, basal ganglia and cerebellum. Content organized around specific nervous system damage (such as stroke, apraxia, spasticity, or spinal cord damage) and functional movements (such as reaching and grasping, balance and gait). Converging evidence from human movement disorders, brain imaging, animal lesion and single cell studies provide the primary basis for the content. (Typically Offered: Fall, Spring)

KIN 5730X: Impact of Physical Activity on Healthy Aging

Credits: 3. Contact Hours: Lecture 3.

Issues of aging from multiple kinesiological perspectives, such as the role of physical activity on brain health, on muscle health, on bone health, and on emotional health. Presentation of research article by students, and discussion; or research articles. Guest professors will present within their area of expertise and lead the discussions. Each student will complete a major writing assignment and verbal presentation in which a review of literature on a related topic will be presented. Offered odd-numbered years. (Typically Offered: Fall)

KIN 5750: Physical Education Curriculum Design and Program Organization

(Dual-listed with KIN 4750).

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 2800; KIN 2810; *Admission to Educator Preparation Program*

Current theory, practices and principles applied to curriculum development for programs in physical education, K-12. Organizing for teaching in a variety of school settings. (Typically Offered: Fall)

KIN 5900A: Special Topics: Physical Education

Credits: 1-3. Repeatable.

Prereq: *Instructor Permission for Course*

(Typically Offered: Fall, Spring, Summer)

KIN 5900B: Special Topics: Health and Exercise Promotion

Credits: 1-3. Repeatable.

Prereq: *Instructor Permission for Course*

(Typically Offered: Fall, Spring, Summer)

KIN 5900D: Special Topics: Exercise Physiology

Credits: 1-3. Repeatable.

Prereq: *Instructor Permission for Course*

(Typically Offered: Fall, Spring, Summer)

KIN 5900E: Special Topics: Sport Sociology

Credits: 1-3. Repeatable.

Prereq: *Instructor Permission for Course*

(Typically Offered: Fall, Spring, Summer)

KIN 5900F: Special Topics: Sport/Exercise Psychology

Credits: 1-3. Repeatable.

Prereq: *Instructor Permission for Course*

(Typically Offered: Fall, Spring, Summer)

KIN 5900G: Special Topics: Motor Behavior

Credits: 1-3. Repeatable.

Prereq: *Instructor Permission for Course*

(Typically Offered: Fall, Spring, Summer)

KIN 5900H: Special Topics: Biomechanics

Credits: 1-3. Repeatable.

Prereq: *Instructor Permission for Course*

(Typically Offered: Fall, Spring, Summer)

KIN 5900I: Special Topics: Research Ethics

Credits: 1-3. Repeatable.

Prereq: *Instructor Permission for Course*

(Typically Offered: Fall, Spring, Summer)

KIN 5910A: Supervised Field Experience: Physical Education

Credits: 1-6. Repeatable.

Prereq: *Instructor Permission for Course*

Supervised on-the-job field experience in special areas. (Typically Offered: Fall, Spring, Summer)

KIN 5910B: Supervised Field Experience: Health and Exercise Promotion

Credits: 1-6. Repeatable.

Supervised on-the-job field experience in special areas.

KIN 5910D: Supervised Field Experience: Exercise Physiology

Credits: 1-6. Repeatable.

Supervised on-the-job field experience in special areas.

KIN 5920: Practicum in College Teaching

Credits: 1-3. Repeatable, maximum of 3 credits.

Prereq: Instructor Permission for Course

Supervised experience with teaching an upper division, classroom-based course. Offered on a satisfactory-fail basis only. (Typically Offered: Fall, Spring, Summer)

KIN 5950: Adapted Physical Education

(Dual-listed with KIN 3950).

Credits: 3. Contact Hours: Lecture 2, Laboratory 2.

Prereq: Junior classification or above

Etiology, characteristics, needs, and movement experiences for individuals with disabilities. Designed to provide appropriate methods of physical education instruction for students including those with disabilities as identified by the Individuals with Disabilities Education Act and students who are talented and gifted. Assessments and strategies to differentiate instruction and to adapt activities for all exceptional learners will be addressed. Laboratory experience required. Graduation Restriction: KIN 5950 may not be taken by students who previously earned credit in KIN 3950. (Typically Offered: Fall)

KIN 5990: Creative Component

Credits: 1-3. Repeatable.

Prereq: Instructor Permission for Course

(Typically Offered: Fall, Spring, Summer)

Courses for graduate students:

KIN 6150: Seminar

Credits: 1-3. Contact Hours: Lecture 3.

Repeatable.

(Typically Offered: Fall, Spring, Summer)

KIN 6200: Advance Research Methods in Physical Activity

Credits: 3. Contact Hours: Lecture 3.

Prereq: KIN 5010, STAT 4020 and STAT 5870. Doctoral students only

Culminating seminar designed to synthesize statistical and design courses with practical research issues using data from physical activity.

(Typically Offered: Spring)

KIN 6610: Advanced Topics in Neuroscience

(Cross-listed with BBMB 6610/ GDCB 6610/ NEURO 6610).

Credits: 3. Contact Hours: Lecture 3.

Repeatable.

Prereq: NEURO 5560 (or comparable course) or permission of instructor

Students will present three journal articles and two overview lectures on topics in neuroscience that are related but outside of their own research interest. Offered even-numbered years. (Typically Offered: Spring)

KIN 6700: Molecular Biology of Muscle

(Cross-listed with ANS 6700).

Credits: 3. Contact Hours: Lecture 3.

Prereq: BBMB 4050, BBMB 4200

Ultrastructure of muscle; chemistry, structure, function, and molecular biology of muscle proteins. Molecular aspects of muscle contraction, development and turnover. Cytoskeletal proteins and dynamics. Offered odd-numbered years. (Typically Offered: Spring)

KIN 6990: Research

Credits: 1-6. Repeatable.

Prereq: Instructor Permission for Course

(Typically Offered: Fall, Spring, Summer)