

# DEPARTMENT OF HEALTH, SPORT, AND EXERCISE SCIENCES

## Health, Sport, and Exercise Sciences

The Department of Health, Sport, and Exercise Sciences (HSES) offers undergraduate and graduate degrees preparing students to work in health, sport, and exercise-related fields. HSES graduates apply their knowledge to serve as teachers, researchers, clinicians, managers, administrators and other professionals in academic, private, and public settings.

The department of Health, Sport, and Exercise Sciences (HSES) has a proud history. James Naismith (<http://hses.ku.edu/sites/hses.soe.drupal.ku.edu/files/docs/James%20Naismith%20Father%20of%20Basketball.ppt>), the inventor of basketball and KU's first basketball coach and athletic director began teaching physical education in 1898 – twelve years before the School of Education (<http://soe.ku.edu>) came into existence.

In addition to its academic programs, HSES offers research opportunities for faculty and students in a variety of laboratories and clinics (<http://hses.ku.edu/research/research-labs/human-performance-labs/applied-physiology-lab>). Current research endeavors include the Research and Coaching Performance Team (<http://hses.ku.edu/research/research-labs/human-performance-labs/neuromechanics-lab>), Laboratory for the Study of Sport Management (<http://hses.soe.ku.edu/research/lssm>), and various projects in the Applied Physiology Laboratory (<http://hses.ku.edu/research/research-labs/human-performance-labs/applied-physiology-lab>).

The department is also active in community outreach with swim classes, the Sports Skills and Fitness School, and Hawk Fitness Academy for children.

In addition, the department offers physical activity classes (HSES 108) for KU students and fitness and recreation facilities (<http://hses.ku.edu/community/recreation>) for faculty and staff.

## Undergraduate Programs

The Department of Health, Sport, and Exercise Sciences offers the following undergraduate programs:

**Athletic Training** (*Students who apply by the Feb. 2, 2017 application deadline and are admitted for the Fall 2017 semester will be the last cohort accepted in the KU undergraduate Athletic Training program.*)

Community Health

Exercise Science

Health and Physical Education – grades PreKindergarten – 12<sup>th</sup>

Sport Management

All undergraduate programs include a strong general education component with a focus on the biological sciences in addition to coursework in the major.

The Department of Health, Sport, and Exercise Sciences also offers the following minor:

- Sport Management

The Academic Catalog is a guideline for policies and procedures in the School of Education. However, academic program requirements change. Students are strongly encouraged to check the school's website (<http://www.soe.ku.edu>) and the department for the most current information. This catalog is in effect for undergraduates admitted to the School of Education for academic year 2017-18.

## Laboratories and Facilities

HSES programs at all levels are supported by experiential education opportunities. The department maintains excellent laboratories for student and faculty research, including biomechanics, motor development/adaptive, applied physiology, sport management, and sport and exercise psychology. All students are exposed to the laboratories and clinics, which serve KU and the community. View (<http://hses.soe.ku.edu/research>) further information about HSES labs and clinics.

## Graduate Programs

Graduate work in health, sport, and exercise sciences includes an offering of courses leading to the Master of Science in Education and Doctor of Philosophy degrees. Entrance requirements include completion of an undergraduate program and admission to graduate studies through the Graduate Division of the School of Education.

HSES provides concentrated graduate study in the following specializations: Exercise Science (M.S.E.), Exercise Physiology (Ph.D.), Health & Psychology of Physical Activity (M.S.E. and Ph.D.), Physical Education Pedagogy (M.S.E.), and Sport Management (M.S.E. and Ph.D.).

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## Courses

**HSES 104. Physical Activity in: \_\_\_\_.** 0.5-1 Hours.

(An accurate description of the activity or activities will be given in the Timetable.) Graded on a satisfactory/unsatisfactory basis. ACT.

**HSES 108. Basic Skill Instruction in: \_\_\_\_.** 0.5-2 Hours.

(An accurate description of the activity or activities will be given in the Timetable.) ACT.

**HSES 110. Intermediate Skill Instruction in: \_\_\_\_.** 0.5-2 Hours.

(An accurate description of the activity or activities will be given in the Timetable.) ACT.

**HSES 112. Advanced Skill Instruction in: \_\_\_\_.** 0.5-2 Hours.

(An accurate description of the activity or activities will be given in the Timetable.) ACT.

**HSES 200. Coaching Certification for Youth Sports. 2 Hours.**

This course will examine theories, practices, methods and techniques used to coach youth sports. Emphasis will be upon training, conditioning, sports psychology, nutrition, organization and management as prescribed by the National Federation of Interscholastic Coaches' Education Program. Students will have opportunity to receive coaching certification. Prerequisite: Open to physical education majors, or by consent of instructor. Students must pass the National Federation of Interscholastic Coaches' Education Program (NFICEP) examination before exiting the course. LEC.

**HSES 201. Team Sports. 2 Hours.**

This course will deal with Soccer, Touch Football, Basketball, Softball, and Volleyball. Practice in construction of lesson plans and unit plans, skill performance and peer teaching practicum are emphasized in each of the areas of team sports. Class meets three days per week with one hour being a laboratory session. Prerequisite: Basic fitness and knowledge of the activities. Open to HSES majors and minors, or by consent of instructor. LEC.

**HSES 202. Individual and Dual Sports. 2 Hours.**

Instruction and analysis in individual sports such as track and field, bowling or archery, and dual sports such as tennis, badminton or handball. Development of sport skills and rule knowledge are emphasized. Prerequisite: Basic fitness and knowledge of the activities. Prerequisite: Open to pre-HSES and HSES majors, or by consent of instructor. LEC.

**HSES 204. Gymnastics. 2 Hours.**

Instruction and analysis in the eleven gymnastics events for men and women. Skill performance, spotting and teaching techniques, lesson and unit plan construction, and teaching practicum constitute the basic focus of this course. Class meets three days per week with one hour being a laboratory session. Prerequisite: Basic fitness and gymnastics/tumbling experience. Open to HSES majors and minors, or by consent of instructor. LEC.

**HSES 210. Instruction and Analysis in Swimming. 1 Hour.**

Study of the skills to be included in the instruction of swimming and the analysis of skill performance involved. Presentation of instructional techniques and practice in construction of learning experiences are included. LAB.

**HSES 214. Physical Education Activities for Elementary School Children. 3 Hours.**

This course will introduce the student to a variety of physical education activities that are appropriate for children in grades K-6. Age appropriate activities demonstrated in this course include: individual and group games, self testing games, stunts and tumbling experiences, physical fitness, modified sports, and movement exploration. Class participation will be expected for all students. Prerequisite: Open to pre-HPE and HPE majors. LEC.

**HSES 218. Lifeguard Training. 2 Hours.**

The course involves American Red Cross certification in lifeguarding which includes rescue techniques and safety procedures. It also includes first aid and CPR certifications. Each student will be asked to identify common hazards associated with various types of aquatic facilities and develop skills necessary to recognize a person in a distress or drowning situation and to effectively rescue that person. This course will help each student to understand the lifeguard/employer and lifeguard/patron relationship as well as provide explanations, demonstrations, practice and review of the rescue skills essential for lifeguards. Prerequisite: HSES 112 Advanced Skill Instruction in Swimming or consent of instructor. LEC.

**HSES 220. Officiating of: \_\_\_\_\_. 1 Hour.**

A study of the rules and techniques of officiating. Students will officiate during laboratory sessions. The activities offered in officiating are: basketball, football, gymnastics, softball, swimming, track and field, and volleyball. Prerequisite: Basic competency in the sport to be officiated, or consent of instructor. LEC.

**HSES 222. Water Safety Instruction. 2 Hours.**

This course is designed to train instructor candidates to teach American Red Cross Swimming and Water Safety courses. Through practice teaching sessions, students will plan and organize skill development utilizing the various educational methods and approaches applicable to swimming and water safety instruction. Students will also learn the correct swimming styles taught by the Red Cross. Prerequisite: HSES 112 Advanced Skill Instruction in Swimming or consent of instructor. LEC.

**HSES 224. Lifeguard Training Instructor. 2 Hours.**

This course is designed as a lecture/laboratory course, meeting for one hour three days per week. Each instructor candidate (student) will have an opportunity for skill development necessary to instruct American Red Cross Lifeguard Training courses. Through practice teaching sessions, emphasis will be placed on enforcing safety precautions, identifying errors, providing effective instruction, and skills correction. After successful completion of this course, the student will be certified to instruct the following American Red Cross Aquatic courses: (1) lifeguard training, (2) waterfront lifeguarding, (3) CPR for professional rescue, and (4) community first aid. Prerequisite: HSES 218 or lifeguard training. LEC.

**HSES 236. Practicum in: \_\_\_\_\_. 1-3 Hours.**

A description of the activities offered will be provided in the Timetable. Prerequisite: Consent of instructor. FLD.

**HSES 240. The Coaching of Football. 2 Hours.**

A complete study of the theoretical aspects of the fundamentals of football. Study of defensive and offensive tactics for each position. Prerequisite: Sophomore standing. LEC.

**HSES 244. Introduction to Physical Education and Sport Studies. 3 Hours GE3H.**

The study of the history, foundational concepts, and current principles of physical education and sport programs. LEC.

**HSES 248. First Aid. 2 Hours.**

This course is designed to teach emergency treatment of injuries, wounds, hemorrhage, burns, and poisoning. Emphasis is placed on the techniques of rescue breathing, CPR, and emergency bandaging. American Red Cross certification is included. LEC.

**HSES 250. Introduction to Athletic Training. 3 Hours.**

Introduction to the health profession of Athletic Training. Course content includes; risk management, pathology, emergency management, musculoskeletal, and general medical conditions of the injured athlete. Prerequisite: Concurrent enrollment in HSES 251. LEC.

**HSES 251. Introduction to Athletic Training Practicum. 1 Hour.**

This course is designed to introduce the beginning skills to the pre-professional athletic training student. Emphasis will be placed on basic athletic training procedures including but not limited to preventative taping, bracing, and padding techniques as well as various other procedures and techniques related to the prevention, care, and management of athletic related injuries/illnesses. Prerequisite: Concurrent enrollment in HSES 250 or transfer credit. LAB.

**HSES 252. The Coaching of Basketball. 2 Hours.**

Theory of basketball, including methods of teaching fundamentals; individual and team offense and defense; various styles of play and methods of coaching. Prerequisite: Sophomore standing. LEC.

**HSES 260. Personal and Community Health. 3 Hours.**

Emphasis on healthful and intelligent living and the application of the fundamental principles of health. LEC.

**HSES 262. Life Skills Training for Intercollegiate Athletics. 2 Hours.**

This course will focus on issues surrounding drug use, testing, and prevention in sports and will incorporate life skills training in the areas of career transition, stress and time management, performance enhancement, strategic learning skills, and the dynamics of communication and leadership. LEC.

**HSES 264. The Coaching of Individual Sports. 2 Hours.**

An analysis of coaching techniques and study of materials for the coaching of gymnastics, swimming, golf, tennis, and wrestling. LEC.

**HSES 269. Introduction to Exercise Science. 3 Hours.**

A study of the various components of physical fitness and the wellness and the implications for developing programs to promote good health and fitness. Lectures and laboratory sessions will be centered on practical knowledge and experiences designed to help individuals enhance their own health, as well as develop sound programs for others. The topics discussed include cardiovascular fitness, body composition, muscular strength, flexibility, evaluation of fitness components, training program design, nutrition, weight management, and facts and fallacies of nutrition and fitness. LEC.

**HSES 289. Introduction to Sport Management. 3 Hours.**

This course provides an overview of the field of sport management including the principles of leadership and management and the fundamentals of personnel management, financial management, marketing, strategic planning, sport ethics, sport law, time management, stress management, facility management, and event management applied to sport settings. LEC.

**HSES 290. Safety Education. 3 Hours.**

A survey of safety problems as they exist in society today, with emphasis on preventive, corrective, and compensatory procedures. LEC.

**HSES 300. Study Abroad Topics in: \_\_\_\_\_. 1-5 Hours.**

A course designed to enhance international experience in topic areas related to health, sport, and exercise sciences at the junior/senior level. Coursework must be arranged through the Office of KU Study Abroad. May be repeated for credit if the content differs. Prerequisite: Permission of the department. LEC.

**HSES 302. Practicum in Adaptive Health and Physical Education for Elementary and Secondary Students. 2 Hours.**

Emphasis will be on instructional techniques that are used for the inclusion of all students in health and physical education learning experiences. Students will develop an understanding of how to deliver health and physical education activities that may be part of an individual education program. As a part of this course, a practicum experience of 30 hours in a public school adaptive physical education setting will be required. LEC.

**HSES 305. Methods of Strength Training and Conditioning. 3 Hours.**

This course will provide the students with the scientific principles and the hands-on experience to develop resistance exercise and related conditioning programs for a wide range of populations, including those focusing on general fitness, therapeutic rehabilitation and sport performance. Prerequisite: Anatomy, Physiology, admission to the Exercise Science or Athletic Training undergraduate programs, or permission of instructor. LEC.

**HSES 306. Principles of Personal Training. 3 Hours.**

Designed to prepare individuals who are interested in becoming certified personal trainers (CPT) through the National Strength and Conditioning Association, or to enhance their own training goals. Instruction is provided describing basic exercise physiology as well as the principles of developing a personal training regimen for a typical gym trainee. Course experiences will reinforce training principles and teach the basic skills necessary for certification. Prerequisite: Accepted to School of Education or instructor permission. LEC.

**HSES 308. Drugs and Diseases in Society. 3 Hours.**

This course is an overview of human disease processes as well as legal and illegal use of drugs and narcotics for treatment or recreational purposes. Both communicable and degenerative diseases will be covered with regards to prevention, transmission, effects, management, and treatment. Legal drugs and illegal drugs will be discussed with regards to their treatment or abuse potential, legislative issues, and consumer education. Reflective thinking will be used to formulate improved perspectives on the roles of drugs and diseases in society. Prerequisite: Admission to Community Health Program or consent of instructor. LEC.

**HSES 310. Research and Data Analysis in Health, Sport, and Exercise Sciences. 3 Hours.**

This course provides formal instruction in the areas of test administration, general statistics, and basic research design. Emphasis will be placed upon the interpretation of statistical data, evaluation of data, and basic methodologies utilized in health, sport, and exercise sciences research. Data collection, analysis, and evaluation will be an integral part of the class. Prerequisite: Admission to the School of Education. LEC.

**HSES 315. Health and Fitness Technology. 2 Hours.**

The course will prepare health and physical education majors to use technology effectively to enhance teaching and learning. Students will explore the use of technology appropriate for communication, organization, instruction, and assessment in health and physical education classrooms. Prerequisite: Admission to the HPE Teacher Licensure Program. LEC.

**HSES 320. Methods of Teaching Physical Education. 3 Hours.**

This course provides a systematic approach to the development of effective teaching skills in physical education. Students receive practical and field experiences that enable them to observe and practice managerial, instructional, and interpersonal skills necessary to produce student learning in K-12 physical education classrooms. Prerequisite: Admission to the HSES Teacher Certification Program. LEC.

**HSES 330. Principles of Nutrition and Health. 3 Hours.**

This course will provide an introduction to the basic principles of nutrition, with an emphasis on application of these principles to improve overall health. Topics include: guidelines for a balanced diet, index of nutritional quality, energy requirements and balance, weight management and obesity, nutritional quackery, sports nutrition, nutrition for children and elderly, and eating disorders. LEC.

**HSES 331. Sport and Exercise Nutrition. 3 Hours.**

Provides a basic understanding of the influence of nutrition on sport and exercise performance. Nutrition for sport performance, including hydration, nutrient timing strategies for various athletes, and use and regulation of ergogenic aids and nutritional supplements will be covered to apply this knowledge to develop a critical understanding of the nutritional and practical dietary needs of individuals participating in sport and exercise. Prerequisite: Accepted to School of Education or instructor permission LEC.

**HSES 335. Clinical Field Experience. 1-3 Hours.**

Clinical Field Experience is designed to allow students who plan to pursue clinical careers the opportunity to observe and assist (as appropriate) in the evaluation and/or treatment of patients by licensed clinicians in fields such as medicine, physical therapy, and cardiac rehabilitation. Only one enrollment permitted each semester. A maximum of six hours will apply towards the bachelor's degree, or a maximum of three credit hours will apply towards the bachelor's degree if the student subsequently enrolls in HSES 580 (Internship). Prerequisite: Admittance to the Community Health or Exercise Science undergraduate degree program in HSES. FLD.

**HSES 340. Instructional Strategies in Motor Development. 2 Hours.**

This course is designed to provide students with an examination of current theories of motor development throughout the life cycle. Emphasis is placed on content regarding the development of fundamental motor skills, physical growth and development, and assessment. Prerequisite: Admission to the HSES Teacher Certification Program. LEC.

**HSES 341. Instructional Strategies in Physical Education for Elementary Classroom Teachers. 1 Hour.**

The application of child growth and development principles to physical education. The use of materials as related to a sequential physical education curriculum in the elementary school will also be included. Prerequisite: Prior or concurrent enrollment in CT 322 or equivalent. LEC.

**HSES 350. Care and Prevention of Athletic Injuries. 3 Hours.**

The introductory study of the prevention, immediate care, and treatment of athletic related injuries and illnesses. This course is designed to cover the basic fundamentals of injury/illness recognition as well as discuss the various strategies for the prevention and care of injuries to the physically active. Prerequisite: Courses in Human Anatomy and First Aid. LEC.

**HSES 351. Foundations of Athletic Training. 1 Hour.**

This course is designed to introduce the practical skills and psychomotor clinical competencies of the beginning student-athletic trainer. Emphasis will be placed on basic athletic training procedures including but not limited to preventative taping, bracing, and padding techniques as well as various other procedures and techniques related to the prevention, care, and management of athletic related injuries/illnesses. Prerequisite: Human Anatomy, First Aid, concurrent enrollment in HSES 350. Open to Athletic Training majors only. LEC.

**HSES 352. Therapeutic Modalities. 3 Hours.**

This course is the study of therapeutic modalities utilized in treatment and rehabilitation of athletic injuries. Prerequisite: HSES 250 or the transfer equivalent, Admission to the Athletic Training Program. LEC.

**HSES 353. Athletic Training Practicum I. 2 Hours.**

The first in a sequence of six practical/clinical experiences for the Athletic Training Student, under the direct supervision of a Preceptor. Prerequisite: Admission to Athletic Training program, HSES 250 and HSES 251. FLD.

**HSES 354. Lower Extremity Evaluation. 3 Hours.**

This course teaches a systematic approach to athletic injury evaluation of the lower extremity, thorax, and abdomen. Prerequisite: Admission to the Athletic Training Program, HSES 353, concurrent enrollment HSES 355. LEC.

**HSES 355. Athletic Training Practicum II. 2 Hours.**

This course is the second in a sequence of six practicum/clinical experience courses for the athletic training student. Prerequisite: Admission to Athletic Training program and concurrent enrollment in HSES 354. FLD.

**HSES 358. Creative Movement and Dance Appreciation. 3 Hours.**

An appreciation for dance will be developed through the study of the pioneers of dance and the critique of local dance performances. Students will experience the following types of dance: creative movement, basic rhythms, ballroom dance, and folk and square dance. Prerequisite: Admission to the School of Education. LEC.

**HSES 365. Peer Health Education. 3 Hours.**

The course is designed to train students in peer health education, as peer health educators in college settings, and as trainers, training adolescents in community health settings for grades 6-12 peer health education. Subject content and teaching methodologies will be emphasized in the ten content areas of health with special emphasis on alcohol, drugs, tobacco, stress reduction, mental health and human sexuality. Prerequisite: HSES 260 or instructor consent. LEC.

**HSES 369. Kinesiology. 3 Hours.**

This course is designed primarily for students in the field of exercise science who already have taken an introductory course in human anatomy and who need a more detailed exposure to concepts of functional movement anatomy. This course will provide a detailed study of the skeletal and muscular systems to include identification of the origin, insertion, and action of the major muscles of the human body. Students will become proficient in the use of directional and movement terminology used to describe movement and be able to identify the plane/axis as well as the agonist and antagonist muscles involved in a movement. Prerequisite: A course in human anatomy, admission to School of Education. LEC.

**HSES 370. Health and Pathophysiology. 3 Hours.**

The course is designed to assist students in the development of a basic understanding of the anatomical structures and physiological processes that are central to the development of various diseases/disorders. Students will apply this knowledge to an evidence-based model for choosing and developing appropriate lifestyle and health-related interventions (e.g. exercise, nutrition, stress management), both for health enhancement and disease prevention. Prerequisite: BIOL 240 and BIOL 246; or admittance to HSES exercise science, community health, or athletic training programs. LEC.

**HSES 371. Medical Terminology for Health Professionals. 3 Hours.**

A study of medical terminology. This course will include; analysis of root words, prefixes and suffixes for understanding medical language; origin, modern usage and abbreviations. LEC.

**HSES 375. Neuromuscular Exercise Physiology and Motor Control. 3 Hours.**

This course explores the control of human movement from an exercise neurophysiology perspective. Emphasis will be placed on the understanding the interactions between the nervous system and muscular systems in the control of muscle force/power production and the control of movement under a variety of contexts. These contexts include responses and adaptations to exercise training, the aging process, and in a variety of neuromuscular disorders. Prerequisite: BIOL 240 and BIOL 246. LEC.

**HSES 378. The Coaching of Volleyball. 2 Hours.**

Theory of volleyball, including methods of teaching fundamentals, individual and team offense and defense. Various styles of play and methods of coaching. Efficient performance of the skills during game conditions will be emphasized. LEC.

**HSES 379. The Coaching of Softball. 2 Hours.**

Theory and fundamentals of coaching softball. Methods of coaching, as well as team offense, defense, and strategies will be stressed. Efficient performance of the skills during game conditions will be emphasized. Prerequisite: Consent of instructor. LEC.

**HSES 380. Sociology of Sport. 3 Hours GE3S.**

A survey of the current literature concerning the scope of sociology in sport, the interaction of people in sport, the social systems controlling sport, and the small group dynamics in sport. Prerequisite: Admission to Sport Management program or permission of instructor. LEC.

**HSES 381. Sport Ethics. 3 Hours.**

This course will help students develop their abilities to reason morally through an examination within competitive sports of ethical theories, moral values, intimidation, gamesmanship, and violence, eligibility, elimination, winning, commercialization, racial equity, performance-enhancing drugs, and technology. Students will develop a personal philosophy of sport and learn how to apply a principled decision-making process to issues in sport. Prerequisite: Admission to Sport Management program or permission of instructor. LEC.

**HSES 382. Sport Facilities and Event Management. 3 Hours.**

This course will provide students with a solid grasp of the fundamental skills in sport facility and event management and the knowledge base to apply those skills in a real world environment. Students will learn about planning, designing and financing the construction of new sport facilities, sport facility management of regular and special events, sporting event planning and game day operations. Prerequisite: Admission in the Sport Management program or permission of instructor. LEC.

**HSES 384. Sport Law. 3 Hours.**

This course is intended to introduce undergraduate students to the major legal issues in amateur and professional sports including dispute resolution, tort law, contract law, constitutional law, statutory law, labor and antitrust law and intellectual law. Students will also learn about risk management, gender equity, the Americans with Disabilities Act and agency law and sports agents. Prerequisite: Admission to Sport Management program or permission of instructor. LEC.

**HSES 385. Psychological Aspects of Exercise. 3 Hours.**

This course is designed for students interested in optimizing motivation and adherence to exercise among individuals in a wide range of physical activity settings (e.g., health clubs, corporate fitness, and physical therapy/rehab). The course content will include a review of the literature highlighting the psychological benefits of exercise, the theoretical advances in understanding the psychological aspects influencing individuals' participation in physical activity, and an introduction to strategies and techniques for professionals attempting to foster motivation and adherence to exercise among their clients. Prerequisite: Admission to the Community Health program or instructor consent. LEC.

**HSES 390. The Coaching of Track and Field. 2 Hours.**

Designed to acquaint the student with the fundamentals of track and field athletics. LEC.

**HSES 395. Concepts in Health and Wellness. 3 Hours.**

This is designed as an introductory course into the profession of School and Community Health Education. Regardless of a person's areas of specialization in Health Education, there are commonalities shared by all of us who are charged with the responsibility of providing education about health. Course emphasis will focus on: defining health education; history of health education; roles and competencies of health educators; theoretical bases for the profession; planning, implementing, administering, and evaluating health programs; settings for health education; future issues. Prerequisite: HSES 260. LEC.

**HSES 403. Health Behavior Theory. 3 Hours.**

This class will be an introduction to the primary models and theories used in health behavior research and health promotion practice. These models and theories undergird the development of successful health-related programs and interventions, and will help guide educators in the development of innovative and effective programming. The course will cover individual, interpersonal, community-level, and ecological theories, and students will have the opportunity to apply these theories to health behaviors of interest. LEC.

**HSES 410. Program Design in Physical Education. 3 Hours.**

The study of physical education curriculum models and extraclass programs appropriate for students in grades PK-12. Students will receive practical and field experiences related to program design and implementation. They will learn techniques appropriate for program evaluation as well as the assessment of student sport skills and fitness. Prerequisite: Admission to the HSES Teacher Certification Program. LEC.

**HSES 418. Health Aspects of Aging. 3 Hours.**

This course will consist of a Holistic Health approach to the various components of the aging process. Special emphasis will be placed on the demographic aspects of aging; normal aging changes and deviations in the aging process (pathophysiology); the relationship between mental and physical health, and the implications for the promotion of risk reduction and prevention principles that can effectively improve the quality of life for older individuals. Prerequisite: A course in personal and community health. LEC.

**HSES 434. Consumer Health. 3 Hours.**

This course will be a comprehensive examination of the factors involved in the selection of health products and services. Topics of discussion will be: protection laws and services, fraudulent practices and products, consumerism, and traditional and alternative health care. There will also be an in-depth examination of how to assess and evaluate health based products that are available to consumers. Prerequisite: Admission to the Community Health Program or consent of instructor. LEC.

**HSES 440. Applied Sport and Performance Psychology. 3 Hours.**

This course will examine the psychological principles and techniques that are applied to improve sport performance and other fields of achievement (e.g., exercise and wellness, music, and academics). Special attention will be given to psychological aspects of injury and rehabilitation, psychological conditioning, psychological training methods, coaching philosophy, the social psychology of team members, and components of peak performances. LEC.

**HSES 453. Communicable and Degenerative Diseases. 3 Hours.**

This course is designed to introduce the student to the study of the basic concepts/principles of disease process. Special emphasis will be placed on the etiology, origin, symptoms, treatment, body defenses, primary prevention, host, agent, (microbes) and environmental factors affecting disease occurrence, prevention and control measures. Topical application of the fundamental concepts of microbiology in school/community health practice will be critically discussed. The natural history of disease and disease classification will be highlighted. Many disease topics (both communicable and chronic, degenerative diseases) will be discussed. Prerequisite: A course in personal and community health. LEC.

**HSES 455. Manual Therapy Techniques and Emergency Care Instructor Training. 3 Hours.**

The purpose of the course is to train students in a Manual Therapy Technique for use in the clinical setting. The course is also designed to certify students as instructors in American Red Cross First Aid, CPR and AED courses as well as instructors for the CPR/AED for the Healthcare Provider. Prerequisite: Completion of HSES 352, HSES 354, HSES 456 and HSES 459 or equivalency from an accredited Athletic Training Education Program or have current First Aid and CPR/AED for the Healthcare Provider certification. LEC.

**HSES 456. Upper Extremity Evaluation. 3 Hours.**

This course teaches a systematic approach to athletic injury evaluation of the upper extremity, head and spine. Prerequisite: Admission into the Athletic Training program, HSES 354, and HSES 355. Corequisite: HSES 457. LEC.

**HSES 457. Athletic Training Practicum III. 2 Hours.**

This course is third in a sequence of six practicum/clinical experience courses for the athletic training student. Prerequisite: Admission into the Athletic Training program and concurrent enrollment in HSES 456. FLD.

**HSES 458. General Medical/Pharmacology. 3 Hours.**

This course will cover general medical conditions/illnesses and over the counter, prescription, and illegal pharmacologic agents commonly encountered in physically active populations. The course will cover recognition of illnesses and diseases, immediate care and medical referral, basic principles of pharmacology, pharmacological agents used in the treatment of various pathologies, and other general medical and pharmacological topics encountered by athletic trainers. Prerequisite: Admission into the Athletic Training Program, HSES 459 and HSES 460. LEC.

**HSES 459. Rehabilitation. 3 Hours.**

This course is the study of rehabilitation principles and techniques used to safely return a physically active individual to their sport/ activity following injury. Prerequisite: Admission into the Athletic Training program, HSES 456, and HSES 457. LEC.

**HSES 460. Athletic Training Practicum IV. 2 Hours.**

This course is the fourth in a sequence of six practicum/clinical experience courses for the athletic training student. Prerequisite: Admission into the Athletic Training program, HSES 457, and concurrent enrollment in HSES 459. FLD.

**HSES 461. Organization and Administration of Athletic Training. 3 Hours.**

This course examines the organizational and administrative aspects of the Athletic Training profession. Course content includes; program management, employment, budget, facility design, risk management, documentation and medical records, insurance, legal and practice regulations, prevention and health promotion, history, and organization of the profession. Prerequisite: HSES 459, HSES 460, and concurrent enrollment in HSES 462. LEC.

**HSES 462. Athletic Training Practicum V. 2 Hours.**

This course is the fifth in a sequence of six practicum/clinical experience courses for the athletic training student. Prerequisite: Admission into the Athletic Training Program and concurrent enrollment in HSES 461. FLD.

**HSES 463. Senior Capstone in Athletic Training. 2 Hours.**

This course is designed to allow senior Athletic Training Students to review previous content and prepare for the BOC certification exam as well as explore areas of professional development. Prerequisite: Admission into the Athletic Training program, HSES 561, and HSES 562. LEC.

**HSES 464. Athletic Training Practicum VI. 2 Hours.**

This course is the final practicum/clinical experience course for the athletic training student. Prerequisite: Admission into the Athletic Training program and concurrent enrollment in HSES 463. FLD.

**HSES 465. Program Assessment and Evaluation. 3 Hours.**

This course will offer an introduction and hands-on application of program assessment and evaluation techniques in health education. As health educators and program planners, we are required not only to develop innovative programs and interventions to address community- and school-based health concerns, but also to give evidence that our efforts are both adequate and effective. Successful program assessment and evaluation incorporate knowledge of basic research methods as well as the theoretical understanding of health behaviors. LEC.

**HSES 466. Program Planning in Health Education. 3 Hours.**

This course is designed to provide the students with an in-depth knowledge of proven health planning models that can be used for program development and intervention. Students will learn how to develop attainable program goals and objectives which will allow programs and interventions to evolve into useful forms of community based health education. Prerequisite: Students must be admitted to the School of Education and the Community Health Program. LEC.

**HSES 467. Introduction to Health Education. 3 Hours.**

This course will provide an overview the various health education professions. Topics emphasized in the course are: the nature of health education, an in-depth description of community health, the school health program, and identifying program and services of voluntary and services of voluntary and official health and welfare organizations. Prerequisite: Admission to the School of Education and the Community Health Program. LEC.

**HSES 468. Methods and Materials in Health Education. 3 Hours.**

Emphasis is placed on the presentation and preparation of health topics along with the recommended resources and materials available. The teaching method is emphasized and student participation is stressed. Students will observe health teachers in the public schools and identify and discuss these methods as they relate to the methods present in the class. Prerequisite: Admission to HPE teacher certification program or consent of instructor. LEC.

**HSES 470. Biomechanics. 3 Hours.**

The course is designed to cover a basic understanding of the anatomical and mechanical principles of human movement. Areas covered will be joint and segmental movement, muscle actions, time-displacement motion description, forces causing or inhibiting motion, and stability. Special attention will be given to the application of the theoretical concepts in movement activities. Prerequisite: Anatomy, admission to the Exercise Science program, or permission of instructor. LEC.

**HSES 472. Exercise Physiology. 3 Hours.**

A fundamental study of the physiological adjustments that occur within the body during exercise. The presentation of this material is particularly oriented toward a basic understanding of the physiological systems as they are affected by the activity of a normal coaching or teaching situation. The physiological values of exercise are also stressed. Prerequisite: Three hours of physiology . LEC.

**HSES 473. Clinical Fitness Evaluation Techniques. 3 Hours AE61.**

This course will provide the student with the knowledge and skills to assess components of physical fitness in adults including cardiorespiratory fitness, body composition, strength, and flexibility. In addition, specific emphasis will be placed on the development of exercise and weight management prescriptions. Students completing the course will have the skills to take the Health Fitness Instructor Certification exam given by the American College of Sports Medicine. Prerequisite: Exercise physiology and research and data analysis in HSES or equivalents. LEC.

**HSES 474. Exercise Biochemistry. 3 Hours.**

This course will examine the processes that underlies the use and production of energy for exercise. Topics that will be explored include glycogenolysis and glycolysis in muscle, cellular oxidation of pyruvate, lipid metabolism, metabolism of proteins and amino acids, molecular biology, neural and endocrine control of metabolism, and local fatigue during exercise. Emphasis will be placed on carbohydrates, protein, and lipid metabolism and the acute and chronic effects that exercise has on these processes. Prerequisite: HSES 472. LEC.

**HSES 475. Undergraduate Research in Health, Sport, and Exercise Sciences. 1-3 Hours.**

The course is designed to allow students to collaborate on an active research project under the supervision of a faculty member in HSES. Only one enrollment permitted each semester. A maximum of six hours will apply towards the bachelor's degree. Prerequisite: Enrollment by Instructor permission only. Successful completion of IRB training via the CITI training program in the KU eCompliance system. RSH.

**HSES 480. Physical Activity and Exercise Management Individuals with Disabilities. 3 Hours AE41.**

An in-depth study of how physical activity and exercise can be a part of the treatment plan for people who have chronic disease or a disability. A variety of physical activity and exercise intervention programs and models will be presented and discussed, as well as protocols for baseline testing and post-treatment testing. A portion of this course will focus on how physical activity and exercise can prevent motor functioning deterioration in people who have a disability or limited functional movement. Prerequisite: Admission to the School of Education Exercise Science or Athletic Training programs and a course in human anatomy and physiology, or consent of instructor. LEC.

**HSES 482. Drugs in Society. 3 Hours.**

This course is designed to provide an in-depth exposure to basic drug classification, pharmacological effects, causes of drug abuse to society, common treatment modalities, and effective prevention/intervention strategies. In addition, consumer issues related to drug use, drug legislation, and drug education programs for school and community implementation will be discussed. Prerequisite: A course in personal and community health or consent of instructor. LEC.

**HSES 483. Sport Finance and Economics. 3 Hours.**

This course will help students gain an understanding of the critical importance of budgeting and financing sports-related industries based on sound financial principles and methods of financial control. Students will learn how economic principles shape the major national industry of sport. Prerequisite: Admission to Sport Management program or permission of instructor and completion of or concurrent registration in FIN 305 or FIN 310. LEC.

**HSES 484. Sport in Film. 3 Hours.**

In the course, students will critically engage and interpret a series of popular sport-related films. By the end of the course, students will be able to write and think critically about the role that film in general, and sport-based films in particular, play in promoting and challenging dominant perceptions of gender, sexuality, nationalism, race, social class, and ability. LEC.

**HSES 485. Sport Communication. 3 Hours.**

This course examines the complex and evolving field of sport communication including personal, organizational, and external perspectives of sport communication. LEC.

**HSES 486. Sport Marketing. 3 Hours.**

This course is intended to provide undergraduate students with basic knowledge and competencies in definitions of marketing and sport marketing, understanding the unique aspects of sport marketing, marketing planning process, consumer demographics and psychographics, the marketing mix, segmentation and target marketing, marketing proposal preparation, sponsorship, endorsement, merchandising, fundraising, marketing goals and objectives, sport consumer and consumer behavior, industry segmentation, special events, ticket sales and their use in promotion, the role of the media, television marketing ratings and shares and venue and event marketing. The proposed content of this course will address each of these expectations. Prerequisite: Admission to the Sport Management program or permission of instructor. LEC.

**HSES 487. Personnel Management in Sport. 3 Hours.**

This course provides students with an overview of the requisite communication skills and concepts of leadership and management as they relate to sport managers. Students will learn how leadership and management practitioners, utilizing effective communication techniques, shape successful sport organizations. Additional emphasis will be placed on building and nurturing relationships with people as a key to effective management. Prerequisite: Admission to Sport Management program or permission of instructor. LEC.

**HSES 488. Pre-Internship Seminar. 1 Hour.**

This course will prepare students for their actual semester-long Internship experience. Students will be provided with background information on available internship sites to assist in their site-selection decision. Students will learn about different management styles they may encounter, the traits and characteristics of effective and productive employees, common rules of the workplace and internship experiences of previous HSES Interns. Prerequisite: All HSES students must be in final semester prior to Internship. LEC.

**HSES 489. Health and Human Sexuality. 3 Hours.**

The course is designed to encompass the various components of human sexuality as well as to demonstrate applicable teaching techniques for sex education. Included in the content of the course are: human sexual response, sexually transmitted diseases, family planning, sex roles, rape, sexual preferences, and topics such as sexuality and the handicapped, sexuality and the mass media, and sexuality and the church. Teaching techniques such as values clarification, non-verbal communications, role playing, tape recordings, and problem solving are demonstrated with appropriate topics. LEC.

**HSES 497. Independent Study. 1-3 Hours.**

Only one enrollment permitted each semester; a maximum of six hours will apply toward the bachelor's degree. This course cannot be taken as a substitute for a required course. Prerequisite: Recommendation of advisor and consent of instructor and department chairperson. IND.

**HSES 499. Internship in Sport Management. 2-16 Hours AE61.**

A full-time work experience in the sport industry (40 hours per week). This experience is actual work in a sport management setting in which management practices are applied. Student interns are directed and evaluated by a faculty member with appropriate supervision by an on-site professional. Student interns must keep an accurate accounting of hours with a performance work diary. Grades/credit for the internship are determined by a faculty member with input from the on-site supervisor. Prerequisite: Completion of all Sport Management coursework. Admission to the Sport Management Internship program. FLD.

**HSES 500. Student Teaching in: \_\_\_\_\_. 14 Hours AE61/GE11.**

A supervised teaching experience in an approved school setting, teaching physical education at the elementary level and health and physical education at the secondary level. The student must teach 8 weeks at the elementary level and 8 weeks at the secondary level. Prerequisite: A cumulative GPA of 2.75 or higher and admission to the HSES teacher certification program. FLD.

**HSES 501. Seminar in Teaching Health and Physical Education. 2 Hours.**

Student teachers will learn to analyze teaching styles and instructional methods that apply and/or relate to their student teaching experience. Discussions of various teaching practices will be facilitated by the university supervisor with input from the student teachers. Topics will include: curriculum, teaching methods, discipline, safety, equipment, and communicating with teachers, parents, and students. Prerequisite: Admission to the HSES Teacher Certification Program. LEC.

**HSES 502. Camp Leadership and Counseling. 2 Hours.**

Involves a complete study of the organization and administration of the various types of camps. It is designed to familiarize the student with camp leadership responsibilities; the development of the camp, the program involving camp crafts, outdoor cookery, hikes and outings, singing, and simple guidance of the individual camper. Prerequisite: General psychology plus three hours in sociology. LEC.

**HSES 515. Assessment of Motor Development and Motor Control of Exceptional Children. 3 Hours.**

Standardized motor assessment tools appropriate for use with exceptional children with motor difficulty will be critiqued and practiced. A battery of tests to measure developmental lag or structural deviation will be selected and administered to determine the motor control of exceptional children and the results will be interpreted. Prerequisite: Six hours of physical education course work. LEC.

**HSES 528. Techniques of Athletic Training - I Lower Extremity. 3 Hours.**

This course provides a comprehensive study of the techniques used by the Athletic Trainer in regard to the assessment and evaluation of athletic injuries/illnesses of the lower extremity, abdomen, and thorax, as well as the study of common illnesses/diseases that affect the physically active. Procedures for reporting and evaluating injuries/illnesses will be discussed so that appropriate injury management and referral may take place. The etiological factors common to athletic injuries, as well as specific signs and symptoms of various athletic related pathological conditions, will be discussed. Prerequisite: Human Anatomy, Human Anatomy Lab, Care and Prevention of Athletic Injuries, and admission to the Athletic Training Program. LEC.

**HSES 529. Techniques of Athletic Training - II Upper Extremity. 3 Hours.**

The comprehensive study of the techniques used by the Athletic Trainer in regard to the assessment and evaluation of athletic injuries/illnesses of the upper extremity, head, and spine. Procedures for evaluating and reporting injuries/illnesses will be discussed as well as etiological factors and common signs/symptoms of various related pathological conditions. The purpose of this course is to prepare students with the skills necessary to accurately recognize the signs/symptoms of injuries and conditions in order to determine the nature and severity of the problem as well as establishing a proper care plan and medical referral when appropriate. Prerequisite: HSES 528 Techniques of Athletic Training - I Lower Extremity. LEC.

**HSES 578. Health Internship Seminar. 2 Hours AE61.**

Students enrolled in the internship will learn how to analyze professional health environments, examine intervention programs, and understand models used to develop health based programs. Discussions surrounding the internship experience will be facilitated by the health education faculty. Topics will relate to all phases of the internship experience. The intent of this course is to better prepare the student for entering the health profession. Discussions will be held on conflict resolution in the work place, professional development, professional behavior and etiquette. Prerequisite: Concurrent enrollment in HSES 580 Internship in Health. LEC.

**HSES 580. Internship in: \_\_\_\_\_. 2-16 Hours.**

A supervised internship experience in an approved setting. The specific type of internship experience and the credits for that particular experience will be outlined in the appropriate program of the student. Prerequisite: Admission to a HSES Internship Program. FLD.

**HSES 581. Athletic Training Practicum I: Recognition and Evaluation. 4 Hours.**

This course provides a practical experience for the student-athletic trainer. Students gain experience through a hands-on approach via clinical settings and field experiences. Practical experiences are supervised by a Certified Athletic Trainer and provide opportunities for students to apply the knowledge and skills of injury/illness recognition and evaluation during their clinical and field experience. Specific skills addressed in HSES 528 will be practiced, applied, and mastered during this experience. Prerequisite: Admission to the Athletic Training program. Concurrent enrollment in HSES 528. LEC.



**HSES 582. Athletic Training Practicum II: Management and Treatment. 4 Hours AE61.**

This course provides a practical experience for the student-athletic trainer. Students gain experience through a hands-on approach via clinical settings and field experiences. Practical experiences are supervised by a Certified Athletic Trainer and provide opportunities for students to apply the knowledge and skills of injury/illness evaluation, and the management and treatment of athletic injuries through a variety of therapeutic modalities during their clinical and field experience. Specific skills addressed in HSES 529 and HSES 654 will be practiced, applied, and mastered during this experience. Prerequisite: HSES 581 and concurrent enrollment in HSES 529 and HSES 654. LEC.

**HSES 583. Athletic Training Practicum III: Rehabilitation. 4 Hours.**

This course provides a practical experience for the student-athletic trainer. Students gain experience through a hands-on approach via clinical settings and field experiences. Practical experiences are supervised by a Certified Athletic Trainer and provide opportunities for students to apply the knowledge and skills of injury rehabilitation/reconditioning through a variety of therapeutic exercise techniques during their clinical and field experience. Specific skills addressed in HSES 656 will be practiced, applied, and mastered during this experience. Prerequisite: HSES 582, concurrent enrollment in HSES 656. LEC.

**HSES 584. Athletic Training Practicum IV: Senior Sport Experience. 4 Hours.**

This course provides a culminating practical experience for the student-athletic trainer. Students gain experience through a hands-on approach via clinical settings and field experiences. Practical experiences are supervised by a Certified Athletic Trainer and provide opportunities for students to apply the knowledge and skills obtained during previous coursework as well as apply administrative and management skills obtained in HSES 658. This course is intended to allow the Senior student more freedom and responsibility in decision making regarding the health care of an athletic team. Prerequisite: HSES 583, concurrent enrollment in HSES 658. LEC.

**HSES 598. Special Course: \_\_\_\_\_. 1-5 Hours.**

A special course of study to explore current trends and issues in health and physical education - primarily for undergraduates. LEC.

**HSES 605. Administrating Health Related Programs. 3 Hours.**

This course will consist of an analysis of administration as it relates to both school and community health programs. The focus will be on administrative models and techniques used to establish and maintain sound health programs in school and community settings. Prerequisite: Six hours of health education or consent of instructor. LEC.

**HSES 671. Applied Biomechanics. 3 Hours.**

This course will examine the qualitative biomechanical analysis of human movement directed towards the goals of performance improvement and injury prevention and rehabilitation. Specifically, this course will provide students with a basis knowledge of the biomechanical foundations of human movement, the knowledge and skills necessary to complete a systematic analysis and evaluation of human motor performance, and the ability to determine and provide interventions that are likely to improve movement in athletic, clinical, educational, and work environments. Prerequisite: A course in human anatomy, admission to the HSES Teacher Certification Program or consent of instructor. LEC.

**HSES 714. Motor Development During Growth. 3 Hours.**

Motor development in childhood and adolescence and its relationship to physical growth. Factors influencing motor learning and development will be explored. This course provides basic understanding of the neuromuscular changes and abilities of children and adolescents. Prerequisite: A course in kinesiology and anatomy. LEC.

**HSES 715. Understanding Research in HSES. 3 Hours.**

This course introduces the concepts and skills involved in understanding and analyzing research in education and related areas. The course provides an overview of basic, general knowledge of various research methodologies. Students should expect to study much of this material in greater depth through additional work before being fully prepared to conduct independent research. However, this course should enhance their ability to locate, read, comprehend, and critically analyze research articles and reports. Topics in the course include quantitative and qualitative methods and designs, historical and descriptive research, and program evaluation. (This course fulfills the requirement of a research methods course in the first 12 hours of graduate study.) Prerequisite: Must be an admitted HSES graduate student. LEC.

**HSES 730. Advanced Concepts in Nutrition. 3 Hours.**

A study of the nutritional factors that affect health at all ages. Specific nutritional needs and effects of deficiency states on health will also be addressed. The course will also include the physiological and biochemical mechanisms involved in the use of nutrients for human growth and development as well as the production of energy through the metabolic process. Prerequisite: HSES 330 or equivalent experience and permission of instructor. LEC.

**HSES 771. Internship in Exercise Science. 6 Hours.**

A supervised internship experience in an approved exercise science setting. Students will gain experience through a hands-on approach via clinical and/or research settings. The specific type of internship experience will be agreed upon by the student and their academic advisor. Prerequisite: Successful completion of at least 24 graduate credit hours. LEC.

**HSES 777. Practicum in Health Education and Wellness Promotion. 1-3 Hours.**

This course is designed to provide practical community health experiences in health education and wellness promotion, including: assessment, planning, implementation and program evaluation. With approval of the instructor, students may choose their practicum focus in any of the ten content areas of health: mental and emotional, family living, growth and development, nutrition, personal health, alcohol tobacco and other drugs, communicable and chronic diseases, injury prevention and safety, consumer health and environmental health. Prerequisite: Enrolled in graduate school and consent of the instructor. LAB.

**HSES 779. Physiology of Functional Aging. 3 Hours.**

The course has been designed to address issues and concepts relating to the biological aging process as a foundation for physical performance, general fitness, and health status. The biological concepts are applied to the human physiological aging process and the systems involved as well as the possible interventions that may effect that process. The several theories associated with physiological aging are also addressed as related to the physiological systems and current research that may impact the understanding of these theories. Prerequisite: A course in basic biology. LEC.

**HSES 780. Internship in Teaching Physical Education: \_\_\_\_\_. 1-16 Hours.**

A supervised internship experience leading to initial physical education teacher certification. The student assumes the total professional role as a teacher of physical education in an approved school setting. FLD.

**HSES 795. Traditions and Principles in Health Education. 3 Hours.**

This course is designed to explore the philosophy and principles which provide the foundation of health education as an academic discipline.

Specific topics include: history of the profession, theories of health behavior and behavior change, principles of learning applied to health communications, health promotion practices, professional preparation, and the integration of philosophical and ethical ideals into program planning and implementation. LEC.

**HSES 798. Special Course: \_\_\_\_\_. 1-5 Hours.**

A special course of in-depth study exploring current trends and issues in health and physical education - primarily for undergraduates. LEC.

**HSES 801. Sport Facilities. 3 Hours.**

The purpose of this course is to study current developments and trends in the financing, programming, design, and construction of facilities for intercollegiate athletics and professional sports. Prerequisite: Admitted to graduate school. A course in the administration/management of sport or consent of the instructor. LEC.

**HSES 803. Health Behavior Theory. 3 Hours.**

Given that theories of health behavior drive research and practice in health education, the purpose of this course is to familiarize students with the major theories and planning models related to health behavior change. Particular focus will be applied to the role of theory in health promotion and critical analysis of the application of theory to guide research practices. Prerequisite: Health major or consent of the instructor. LEC.

**HSES 804. Sport Psychology. 3 Hours.**

This course is designed to introduce students to the current research and theoretical perspectives in the sport psychology literature. Specifically, students will gain a broad understanding of the three major areas of sport psychology: social psychology (e.g., motivation), performance enhancement (e.g., mental skills training), and psycho-physiology (e.g., impact of anxiety on performance). Prerequisite: Admission in the health program or consent of the instructor. LEC.

**HSES 805. Laboratory Experiments and Analysis--Exercise Physiology. 3 Hours.**

Students will learn the techniques of operating various types of laboratory equipment and will conduct small-scale lab experiments in areas such as respiration, circulation, metabolism, strength, neuromuscular function, cardiac function, and body composition. Special emphasis will be placed on laboratory techniques of assessing physical fitness. Prerequisite: A course in exercise physiology. LAB.

**HSES 806. Stress Management. 3 Hours.**

The long range objectives of this course are to assist students in gaining stress management knowledge; to help them to formulate improved perspectives on various stress management techniques; and consequently apply the developing constructs in their lives with a sense of purpose and self-responsibility. Prerequisite: Two courses in health education or consent of instructor. LEC.

**HSES 807. Current Literature in Exercise Physiology. 2 Hours.**

A wide range of topics from the exercise physiology literature will be discussed. Instructor and students will present reports to the group centered on current research findings with discussion aimed at application of these results to physical exercise and training. Prerequisite: A basic course in exercise physiology or consent of instructor. LEC.

**HSES 808. Biomechanics of Human Movement. 3 Hours.**

This course will examine the movements and the structure and function of human beings by means of the methods of mechanics. An emphasis will be placed on the two primary goals of biomechanics: performance improvement and injury prevention and rehabilitation. Topics to be covered include the kinematics and kinetics of human movement, muscle mechanics, bone and joint mechanics, and the biomechanics of musculoskeletal injury. Prerequisite: Courses in calculus, physics, anatomy, and biomechanics, or consent of instructor. LEC.

**HSES 810. Advanced Exercise Physiology. 3 Hours.**

An advanced study of the physiological and biomechanical aspects of muscular, cardiovascular, and respiratory function as the human is engaging in exercise. The topics of energy metabolism, hormones, and nutrition as related to exercise also are presented. Prerequisite: A basic course in exercise physiology. LEC.

**HSES 812. Current Issues in Health. 3 Hours.**

This course is designed to review and discuss current issues in various health related areas. The focus will be on relevant issues and topics that are guiding and directing the health profession. The range of topics discussed will vary from popular literature to scientific research and cover such areas as health education, community health, and health over the lifespan. Students in the course will be expected to report, discuss, and interact with each other concerning the issues as they are reported. Prerequisite: A graduate course in health or consent of the instructor. LEC.

**HSES 814. Implementing Health Programs. 3 Hours.**

The purpose of this course is to explore planning models used for designing, implementing and managing health promotion programs. Students will be trained to develop objectives, assess determinants, select methods and strategies, pre-test program materials, and adopt and implement promotional plans. Problem based and community based learning experiences will be provided. Prerequisite: A health major or permission from the instructor. LEC.

**HSES 817. Practical Aspects of Aerobic and Resistance Training. 3 Hours.**

This course will be a discussion of various concepts related to aerobic and resistance training. By the end of the semester, the student should be able to demonstrate an understanding of information presented in this course by achieving satisfactory evaluations of presentations, papers, and an examination of the following topics: energy metabolism, general adaptations of aerobic and resistance training, exercise techniques for aerobic and resistance training, periodization of training, testing and evaluation of aerobic and resistance training performance, and exercise prescription for aerobic and resistance training. Prerequisite: Undergraduate course in exercise physiology or consent of instructor. LEC.

**HSES 818. Legal Aspects of Public Health Education. 3 Hours.**

This course is designed to enhance understanding of the variety of legal issues which affect health educators and their audiences. Specifically, this course will survey federal, state, and local public health laws and regulations which may proscribe health education content and the health educator's actions. Legislation will be analyzed and the practical impact of the health educator upon the legislative process will be emphasized. Prerequisite: A course in community health or consent of instructor. LEC.

**HSES 823. Behavior Modification in Health and Exercise. 3 Hours.**

This course will examine the behavioral principles that influence health and exercise practices. Theories of human behavior, reinforcement theory, and models of self-esteem will serve as the foundation for studying behavior change. Society influences will be strongly emphasized. Course topics will include exercise determinants, motivation, media representation, negative behaviors, self-efficacy, social support, and effective promotion strategies. Prerequisite: Admitted to Graduate School or consent of instructor. LEC.

**HSES 824. Epidemiology and Concepts of Disease Causation. 3 Hours.**

This course involves the study of the etiology and natural history of infectious and non-infectious diseases including vector control, host defenses and resistance, investigation of disease outbreaks, mental health and public health. The course deals with detailed analytic and descriptive epidemiology and their implications for improving our understanding of health and diseases; epidemiologic consequences of nuclear war and retrospective and prospective approaches in epidemiological research. Contemporary developmental methods for disease prevention will be critically reviewed. Prerequisite: HSES 573, or equivalent, or consent of instructor. LEC.

**HSES 825. Skeletal Muscle Physiology. 3 Hours.**

This course will provide the student with an in-depth study of the structure and development, contractile mechanics, and neuromuscular system as it relates to the skeletal musculature. Structure and Development - muscle fiber, motor neuron, neuromuscular junction, muscle receptors, muscle formation, development of muscle innervation. Putting Muscles to Work - ion channels, pumps, and binding proteins, axoplasmic transport, resting and action potentials, neuromuscular transmission, muscle contraction, motor units, exercise, muscle metabolism. The Adaptable Neuromuscular System - fatigue, loss of muscle innervation, recovery of muscle innervation, neurotrophism, disuse, muscle training, injury and repair, aging. Prerequisite: HSES 810 or equivalent. LEC.

**HSES 828. Sport Finance. 3 Hours.**

A study of the principles and applications of finance and economics in the sport industry. Strategic financial planning as a part of managements responsibilities is highlighted. Prerequisite: Admitted to Graduate School. LEC.

**HSES 830. Socio-Cultural Dimensions of Sport. 3 Hours.**

Current literature concerning the impact of American social values and cultural patterns of sport and physical activity will be studied. Critiques of related research involving sport and social institutions, and socio-cultural groups in sport will be emphasized. Prerequisite: A course in Sociology of Sport or consent of instructor. LEC.

**HSES 831. Ethics in the Sport Industry. 3 Hours.**

This course is designed to help students learn to make morally reasoned decisions in various sport settings. This course will help prepare students to respond more responsibly when faced with challenging ethical dilemmas and guide them in learning to serve as role models for ethical conduct. LEC.

**HSES 832. Physical Education Instructional and Assessment Methods. 3 Hours.**

The study of research-based instructional and assessment methods appropriate for PK-12 physical education. Managerial, instructional, and supervisory skills will be developed. Traditional and alternative assessment tools will be discussed. Readings, observations (live and video), and practice teaching will prepare students to complete a practical experience and an action research project in a PK-12 school. Prerequisite: Admission to Graduate School. LEC.

**HSES 833. Public Health Aspects of Exercise. 3 Hours.**

This course describes the timeline for physiologic adaptations to long-term physical activity. It describes the effects of physical activity on chronic disease. It describes, from a population perspective, the effects of physical activity on the health of the nation. Prerequisite: 12 hours of HSES courses, or equivalent, or consent of instructor. LEC.

**HSES 836. Physical Education Curriculum Models. 3 Hours.**

An examination of the elements and processes of curriculum construction in physical education for elementary, secondary, and post-secondary institution, and the institutional and professional issues that affect these processes. A study of contemporary curricula structures in regard to planning, implementation, and evaluation of K-12 curricula and professional preparation curricula in physical education programs. Prerequisite: A course in physical education curriculum, or equivalent. LEC.

**HSES 840. Organizational Behavior in Sport. 3 Hours.**

This course utilizes a micro perspective to analyze the behavior and culture within sport organizations. Specifically, the student will study and learn how to apply management and leadership theories that have the potential to shape the work environment and will discuss how current topics in organizational behavior are particularly relevant to the sport industry. Prerequisite: Admitted to Graduate School. Consent of the instructor. LEC.

**HSES 842. Sports Marketing. 3 Hours.**

This course helps students gain a deeper understanding of sport marketing by examining in-depth the sport marketing mix of product, price, place, and promotion as well as marketing research, marketing strategy, market segmentation, branding, sponsorships, licensing, venue and event marketing, public relations, and global sport marketing. LEC.

**HSES 850. Analysis Techniques for Health, Sport, and Exercise Sciences Laboratory and Field Data. 3 Hours.**

Techniques for analyzing data gathered in Health, Sport, and Exercise Sciences laboratories and field studies will be presented in this course. Techniques for the recording of raw data, appropriate organization of raw data, selection of test for analysis of data, use of computer software, and computer programming for analysis and reporting results of the data will also be included. Prerequisite: PRE 710, PRE 720, or PRE 725. LEC.

**HSES 866. Contemporary Trends in Elementary and Secondary Physical Education. 3 Hours.**

An in-depth study into the research and other forms of literature will be made to study and examine the latest trends in elementary and secondary school physical education. Games, activities, dances, and rhythms will be presented and discussed relative to developmental levels of students grades K-12. Prerequisite: A methods course in teaching physical education or consent of instructor. LEC.

**HSES 872. Exercise and the Cardiovascular System. 3 Hours.**

This course will be a discussion of various concepts specifically related to exercise and the cardiovascular system. By the end of the semester, the student should be able to demonstrate an understanding of the interaction of exercise and cardiovascular system by achieving satisfactory evaluations on examinations, abstracts, and classroom presentations. The following topics will be discussed as they relate specifically to exercise: homeostasis and cardiovascular transport mechanisms, basic structure and function; characteristics of cardiac cells; the heart as a pump; the peripheral vascular system; vascular control; venous return and cardiac output; regulation of arterial pressure; cardiovascular responses to stress; and cardiovascular function in pathological situations. Prerequisite: Undergraduate course in exercise physiology or consent of instructor. LEC.

**HSES 880. Internship in Sport Management. 1-10 Hours.**

This course will provide for supervised and directed experiences in selected sport management settings. The graduate advisor will schedule observations of the internship, as well as regular conferences with the student. Written summaries and evaluations of the internship will be prepared by the student, the agency supervisor, and the university graduate faculty member. Prerequisite: Admission to the Graduate Program in Sport Management. FLD.

**HSES 884. Legal Aspects of Sport. 3 Hours.**

This course is intended to introduce graduate students to the basic concepts of the American legal system and the application of them to intercollegiate and professional sports. Particular emphasis will be given to risk management and preventive law. Other topics include: governance issues in intercollegiate and professional sports, contract law, employment discrimination, labor relations and collective bargaining, agency law and athlete agents, regulation of participation in intercollegiate and high school athletics, sport facility and event issues, participant liability issues, product liability issues, premises and spectator liability, participant violence in sports, and intellectual property law. Prerequisite: Admission to graduate program in School of Education LEC.

**HSES 890. Seminar in HSES. 3 Hours.**

This course is designed to provide a general research seminar learning experience for graduate students in HSES. In particular, students will learn about faculty research activities and interests from a variety of specialty areas both within KU and outside of KU. Through faculty and guest presentations, students will be exposed to a variety of design and methodologies used to conduct research in the specialty areas of HSES. LEC.

**HSES 892. Psychology of Physical Activity. 3 Hours.**

This course is designed for students interested in optimizing motivation and adherence to exercise among individuals in a wide range of physical activity settings (e.g., health clubs, corporate fitness, physical therapy). The course content includes a review of the literature highlighting the psychological benefits of exercise, the theoretical advances in understanding the psychological aspects of individuals' participation in physical activity, and strategies and techniques for professionals attempting to foster motivation and adherence to exercise among their clients/members. Prerequisite: Admission in the health program or consent of the instructor. LEC.

**HSES 897. Independent Study. 1-4 Hours.**

Prerequisite: Consent of advisor and instructor. RSH.

**HSES 898. Master's Project. 1-4 Hours.**

RSH.

**HSES 899. Master's Thesis. 1-6 Hours.**

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**HSES 905. Advanced Concepts in Health Education. 3 Hours.**

This course is designed as an in-depth study of the pedagogy of health education. It is concerned with the effects of various health education models, new materials, and innovative teaching techniques. The effectiveness of various media such as films, slides, transparencies, microcomputers, and assessment tools will be analyzed. Research concerning innovations in education will be investigated along with a study of future trends in the field. Timely issues of controversy about health education practices and the effectiveness of values clarification activities will also be discussed. LEC.

**HSES 910. Biochemistry of Exercise. 3 Hours.**

This course will include an in-depth examination of metabolic and endocrine principles as they relate to physical exercise and training. Specific topics will include: substrate utilization in exercise, metabolic controls, muscle biochemistry, body composition, nutritional aspects and hormonal influences in exercise. Both instructor and students will report on the most current literature relating to the topics. Prerequisite: Human biodynamics or a course in biochemistry. LEC.

**HSES 926. Grant and Research Proposal Writing. 3 Hours.**

This is a course for students to examine the sources and areas which provide financial support for research projects. The areas of study include types of research funding available on a local, state, and federal level, the elements and design of writing a proposal and strategies involved in securing financial support for research. A focus for the course will center upon preparing a research proposal for funding. Prerequisite: PRE 710. LEC.

**HSES 940. Scientific Dimensions of Exercise and Health. 3 Hours.**

This course has been designed to bring together the many scientific factors relating exercise and physical activity to health and human function. The course focuses on the interdisciplinary nature of this relationship and reviews the physiological, sociological, psychological, and behavioral factors involved. Prerequisite: Fifteen hours of graduate level course work in health or physical education and admission to health or physical education doctoral program. LEC.

**HSES 980. Advanced Topics: \_\_\_\_\_. 1-3 Hours.**

A special course of study to meet current needs of education professionals -- primarily for post-master's level students. LEC.

**HSES 981. Current Issues in Health and Physical Education. 3 Hours.**

This course will explore the latest philosophical issues and controversies which are impacting the fields of health, physical education, and athletics. The student will explore the current and future ramifications of each issue and its potential effects on the profession. Prerequisite: Admission to the Health, Sport, and Exercise Sciences Doctoral Program. LEC.

**HSES 990. Doctoral Seminar. 3 Hours.**

This seminar based course will be designed to prepare the doctoral student for academic careers or careers in industry after they graduate. The topics covered will be promotion and tenure procedures and expectations, including but not limited to teaching, responsible conduct of research, professional ethics, historical ethical issues, evaluation of ethical dilemmas, and service expectations at research intensive institutions, regional comprehensive institutions and small liberal arts colleges. Industry career options will be discussed and guest speakers from various disciplines will be brought in to discuss options and expectations with this career path. Prerequisite: Doctoral student or permission of the instructor. LEC.

**HSES 995. Field Experience in: \_\_\_\_\_. 1-5 Hours.**

Supervised and directed experiences in selected educational settings. The advisor will schedule regular observations of the field experience and conferences with the student. Written summaries and evaluations of the field experiences will be prepared independently by the student, a representative of the cooperating agency, and the advisor. Open only to advanced students. Field experience credit in any one semester may not exceed five hours, and total credit may not exceed eight hours. FLD.

**HSES 996. College Teaching Experience in: \_\_\_\_\_. 3 Hours.**

To meet the college teaching experience requirement for doctoral programs, a student shall engage in a semester long, planned, instructional activity that shall include college classroom teaching under supervision. Planning shall be done with the advisor and/or member of the faculty who will supervise the experience. The activity shall be done under the supervision of a member of the University of Kansas faculty or by an individual or individuals designated by the candidate's committee. FLD.

**HSES 997. Individual Study. 1-4 Hours.**

Prerequisite: Prior graduate course work in the area of study and consent of instructor. RSH.

**HSES 999. Doctoral Dissertation. 1-15 Hours.**

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