Health and Human Physiology

Chair

- Gary L. Pierce

Undergraduate majors: health studies (BA); exercise science (BS); health promotion (BS); human physiology (BS); sport and recreation management (BS); therapeutic recreation (BS)

Undergraduate minors: human physiology; inclusive recreation; lifestyle medicine; sport and recreation management

Undergraduate certificate: interscholastic athletic/activities administration

Graduate degrees: MA in sport and recreation management; MS in health and human physiology; PhD in health and human physiology

Faculty: https://hhp.uiowa.edu/people/faculty

Website: https://hhp.uiowa.edu

The Department of Health and Human Physiology offers undergraduate majors, minors, a certificate, and graduate degree programs in health and human physiology and in sport and recreation management. The department administers the Certificate in Disability Studies and collaborates with other departments to offer the Certificate in Event Management, as well as offering coaching authorization courses. In addition, the department is home to the Health and Physical Activity Skills Program (HPAS), which offers courses that provide instruction and practice in lifetime sports, fitness training, and wellness activities aimed at enhancing physical health and well-being.

Undergraduates in all majors may use several health and human physiology courses to fulfill requirements of the College of Liberal Arts and Sciences GE CLAS Core. The department's First-Year Seminar is designed for entering undergraduate students.

Certificates

Disability Studies

The Department of Health and Human Physiology administers the undergraduate certificate program in disability studies. Disability studies examines disability as a social, cultural, historical, and political phenomenon rather than focusing on its clinical, medical, or therapeutic aspects. It is an interdisciplinary field that draws on scholarship from diverse disciplines. The certificate program helps students expand their knowledge and awareness of disability issues and prepare for careers in public life. See the Certificate in Disability Studies in the catalog.

Event Management

The departments of Health and Human Physiology and Communication Studies, the School of Journalism and Mass Communication (College of Liberal Arts and Sciences), and the Department of Marketing (Tippie College of Business), collaborate to offer the undergraduate Certificate in Event Management. Students who earn the certificate will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event management and careers in the event management industry. For information, see the Certificate in Event Management in the catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Health Studies (Bachelor of Arts)
- Major in Exercise Science (Bachelor of Science)
- Major in Health Promotion (Bachelor of Science)
- Major in Human Physiology (Bachelor of Science)
- Major in Sport and Recreation Management (Bachelor of Science)
- Major in Therapeutic Recreation (Bachelor of Science)

Minors

- Minor in Human Physiology
- Minor in Inclusive Recreation
- Minor in Lifestyle Medicine
- Minor in Sport and Recreation Management

Certificate

- Certificate in Interscholastic Athletic/Activities Administration

Graduate Programs of Study

Majors

- Master of Arts in Sport and Recreation Management
- Master of Science in Health and Human Physiology
- Doctor of Philosophy in Health and Human Physiology

Facilities

Classroom and research laboratories are located in the Field House and in other buildings on campus. They provide excellent facilities for instruction and research at both the undergraduate and graduate levels.

Cooperative efforts with other units facilitate specialization by allowing Department of Health and Human Physiology students to use additional special facilities and research equipment in other departments on campus (e.g., biology, biochemistry and molecular biology, molecular physiology and biophysics, orthopedic surgery, internal medicine, pharmacology, and the College of Engineering).

Courses

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Health and Human Physiology Courses

HHP:1000 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

HHP:1045 Diversity and Inclusion in Healthy Living 3 s.h.
Personal health strategies; information and empowerment; application-based work, including creating a family health pedigree or individual health portfolio; discussion of current health ethics topics; subjects may include nutrition, sleep, stress, physical fitness, relationships, injury prevention, prenatal health, vaccination, cancer, infectious diseases, global health, and more. GE: Diversity and Inclusion.

HHP:1050 Exploring Health and Human Physiology 1 s.h.
Introduction to different ways of thinking within the fields of physiology, health, exercise, and medicine; exploration of quantitative reasoning, evidence-based reasoning, the scientific method, analytical reasoning and data literacy, ethical reasoning, importance of diversity and inclusion, and creative applications.

HHP:1100 Human Anatomy 3 s.h.
General human anatomy covering most systems of the body. GE: Natural Sciences without Lab.

HHP:1110 Human Anatomy Laboratory 1 s.h.
All major systems of the human body, understood through computer-generated images, models, histological slides, anatomical specimens. Corequisites: HHP:1100 or HHP:3105 or HHP:1400, if not taken as a prerequisite. GE: Natural Sciences Lab only.

HHP:1200 First Aid/CPR Athletic Training 2 s.h.
First Aid and CPR with automated external defibrillator (AED); opportunity for certification in basic life support through the American Heart Association; satisfies the first aid and CPR requirement for the athletic training program application; for declared athletic training interest majors. Requirements: completion of or current enrollment in AT:1010.

HHP:1300 Fundamentals of Human Physiology 3 s.h.
Introduction to function and regulation of the human body. Recommendations: high school chemistry and basic biology. GE: Natural Sciences without Lab.

HHP:1310 Human Physiology Laboratory 1 s.h.
Laboratory course illustrating principles of physiological principles through experimental measurements, practical assessments, and computer-based illustrations of human function. Recommendations: one semester of biology.

HHP:1400 Human Anatomy and Physiology 3 s.h.
General human anatomy and physiology covering most systems of the body. GE: Natural Sciences without Lab.

HHP:2020 Developing Your Professional Brand 2 s.h.
Development and preparation for professional growth; focus on image as a brand; how to manage brand on social media, LinkedIn, and professional documentation; expansion of brand; preparation for experiential learning and job searching. Corequisites: HHP:2200.

HHP:2130 Human Development Through the Life Span 3 s.h.
Overview of human developmental theories across the life-span; aspects of cognitive, physical, and personality development from birth to death; the role of culture, environment, health, and economic factors over the developmental process and life continuum.

HHP:2148 Personal Training 3 s.h.
Essential aspects of personal training including theory and applied practice of screening, assessment, exercise prescription, and technique for development of safe and effective training programs for clients. Prerequisites: HHP:1300 and HHP:2200.

HHP:2200 Physical Activity and Health 3 s.h.
Physical activity determinants in society; school, workplace, community-based health promotion interventions to improve activity levels. GE: Values and Culture.

HHP:2280 Cultural Competency and Health 3 s.h.
Examination of the importance of ethnic and cultural factors for community health practice; essential theories, models, and practices for working with race, ethnicity, gender, and social issues; topics may include demographics, disparities, complementary and alternative medicine, spiritually grounded approaches, multicultural populations, communication, workforce, aging, sexual orientation, and future challenges. GE: Diversity and Inclusion.

HHP:2310 Nutrition and Health 3 s.h.
Physiology, biochemistry of human nutrition; appropriate food sources; qualitative and quantitative evaluation of diets using standard references. GE: Natural Sciences without Lab.

HHP:2350 Biomechanics of Sport and Physical Activity 3 s.h.
Principles of biomechanics, kinesiology, and anatomy; quantitative aspects of sport and physical activity; emphasis on developing a qualitative grasp on mechanical principles of human movement within sports and physical activity; how to apply these principles in a sport/exercise environment. Prerequisites: HHP:1100.

HHP:3030 Lifestyle Medicine 3 s.h.
Overview of influences of lifestyle medicine on chronic disease treatment and prevention; understanding evidence-based lifestyle medicine factors on holistic well-being; development of communication skills to support behavioral and lifestyle medicine changes for treatment and prevention of chronic conditions. Prerequisites: HHP:2200 and HHP:2310.

HHP:3045 Physical Activity Psychology 3 s.h.
People's thoughts, feelings, and behaviors in physical activity contexts; psychological theory and research related to benefits and determinants of physical activity, models for involvement in physical activity, and theories of change; focus on cognitive and social psychological perspectives. Prerequisites: HHP:2200.

HHP:3050 Obesity 3 s.h.
In-depth overview of biological, behavioral, and societal causes and consequences of obesity epidemic; potential solutions from primary and secondary prevention standpoints; causes of obesity, available treatments, and global impact that obesity epidemic presents to society. Prerequisites: HHP:2200 and HHP:2310.

HHP:3105 Anatomy for Human Physiology 3 s.h.
All major systems of the body are covered with focus on the normal structure of the human body; appropriate for preprofessional students planning on careers in the various health professions.

HHP:3110 Advanced Anatomy Laboratory 2 s.h.
Detailed gross anatomy of all major systems of the body; structure of the human body at organ, tissue, and cellular levels; examination of various human and other mammalian specimens.

HHP:3115 Anatomy for Human Physiology with Lab 5 s.h.
Covers all major systems of the body in a combined lecture and laboratory anatomy course; focus on normal structure of the human body; laboratory includes gross anatomy of some human structures and dissection of other mammalian specimen; appropriate for preprofessional students planning on careers in various health professions. Prerequisites: BIOL:1411.

HHP:3150 Program Design in Strength and Conditioning 3 s.h.
Examination of elements of program design for developing muscular fitness and skill related to fitness; applies to programming for individuals with whom a major goal of their physical activity program is to maximize human performance potential; these goals can either be for personal fitness, success in specific sports, or for applications in occupational athletes.

HHP:3200 Health Behavior and Health Promotion 3 s.h.
Principles of epidemiology and health behavior theories applied to multilevel frameworks for health promotion. Prerequisites: HHP:2200 and HHP:2310.

HHP:3230 Psychopharmacology 3 s.h.
How drugs act to influence behavior; general principles of drug action on the nervous system; licit and illicit drugs, use/abuse, historical perspective on drug use. Prerequisites: PSY:2811 with a minimum grade of C- or (HHP:1300 with a minimum grade of C- or HHP:1350 with a minimum grade of C- or HHP:3500 with a minimum grade of C- or HHP:3550 with a minimum grade of C-). Same as PSY:3230.

HHP:3300 Human Growth and Motor Development 3 s.h.
Human growth and biological maturation; focus on motor development from birth through puberty. Recommendations: prior course in anatomy, human physiology, or biology.

HHP:3400 Applied Exercise Physiology 3 s.h.
Effects of acute exercise and chronic exercise training on different physiological systems (energy, neuromuscular, circulatory, respiratory, endocrine); overview of physiological principles necessary for more advanced study of fitness evaluation and exercise prescription; preparation for ACSM certification. Prerequisites: HHP:1300 or HHP:3500.

HHP:3420 Practicum in Health Education and Outreach 3 s.h.
Coursework and experiential learning with the Office of Student Wellness; practical experience in planning, implementing, and evaluating health programs; students spend at least 20 hours assisting with health outreach events, programs, and opportunities which may include staffing a table, assisting with group fitness assessments, or participating in health promotion-related opportunities; students also work on a team health project and plan their own health event; reflection on how health issues apply to students personally and to their communities; foundation of theories/models that guide health behavior change in college setting; papers, projects, outreach events, presentations. Prerequisites: HHP:2310 and HHP:2200.

HHP:3430 Health Management and Administration 3 s.h.
Introduction to management, administration, and leadership principles as they relate to health promotion programs. Prerequisites: HHP:2200 and HHP:2310 and HHP:1100 and HHP:1300.

HHP:3450 Immunology in Health and Disease 3 s.h.
Overview of immunology, beginning at the molecular level and ending with the role of the immune system in disease; fundamental concepts of the immune system; innate and adaptive immunity, focusing on cell-mediated and humoral immune responses, in addition to effector mechanisms in both of these responses; concepts of immunologic tolerance; autoimmune disease; immunodeficiency syndromes; the inflammatory process in disease. Prerequisites: HHP:3500 or HHP:3550.

HHP:3500 Human Physiology 3 s.h.
Organ system approach to physiology in order to understand normal function of the human body from the submolecular and cellular levels to the whole organism; emphasis on the development of a mechanistic understanding of organ system function and integrated physiological function across systems to promote homeostatic regulation in the human body. Prerequisites: (HHP:1300 or BIOL:1141 or BIOL:1140 or BIOL:1411) and (CHEM:1070 or CHEM:1110).

HHP:3550 Human Physiology with Laboratory 5 s.h.
Mechanistic approach to understand organ system function and integrated function across systems as the basis for homeostatic regulation within the human body; experiential laboratory activities that incorporate fundamental measurements of human function and analysis, interpretation, and presentation of experimental findings. Prerequisites: (HHP:1300 or BIOL:1141 or BIOL:1140 or BIOL:1411) and (CHEM:1070 or CHEM:1110). Recommendations: HHP:1050, one semester of human anatomy, and one semester of statistics or biostatistics.

HHP:3555 Lab for Human Physiology 2 s.h.
Experiential laboratory activities that incorporate fundamental measurements of human function and analysis, interpretation, and presentation of experimental findings. Prerequisites: HHP:3500. Recommendations: one semester of statistics or biostatistics.

HHP:3700 Health Care Communications 1 s.h.
Health care provider communication with patients and other health care workers; students communicate with digital patient(s) within a software platform to establish a patient history and relevant documentation.

HHP:3820 Community Wellness Guided Practicum arr.
Application of theory into practice to support skill development; students work with local worksites to deliver a wellness program, conduct a well-being assessment, develop and implement a behavior change intervention, deliver education, and evaluate outcomes in a professional context; utilization of skills in marketing, design, presentation, and cultivating connections. Prerequisites: HHP:2200 and HHP:2310 and HHP:1100 and HHP:1300.

HHP:3850 Promoting Health Globally 3 s.h.
Major global health threats in the United States and abroad; impact of culture, history, economics on health disparities; approaches, programs, policies to remedy them. Same as GHS:3850.

HHP:3900 Writing for Health and Human Physiology 3 s.h.
Effective written communication specific to health sciences; planning, drafting, revising, and peer-editing materials (e.g., personal statements, professional communications, general articles of interest, scientific papers); practicum experience.

HHP:3930 Practicum in Health and Human Physiology 1-3 s.h.
Practicum experience that consists of shadowing and practicing field specific skills under close supervision of a professional at the organization, subject matter expert, or faculty member in the areas of research, fitness, strength and conditioning, nutrition, clinical rehabilitation, health promotion, health education, community outreach, medical training, or other health-related area; students receive regular feedback, overall performance evaluations, and meet learning objectives for practicum experience that align with professional competencies and/or academic preparation.

HHP:3994 Undergraduate Research 1-3 s.h.
Independent laboratory research in health, human physiology, or related science fields.

HHP:4010 Behavioral and Clinical Health Assessment Laboratory 4 s.h.
Expected assessment skill set for health promotion professionals, including ability to assess and interpret blood pressure, lung function, blood lipids, and heart rate; health behavior measurement issues including how to use objective monitors, self report, interview, and web-based trackers to assess diet, physical activity, and sleep; general measurement and research concepts will be introduced and students will have laboratory practice in sphygmomanometry, spirometry, anthropometry, accelerometry, sleep tracking, computerized dietary assessments, and graded exercise testing. Prerequisites: HHP:2200 and HHP:2310 and HHP:1100 and HHP:1300.

HHP:4020 Health Coaching 3 s.h.
Health coaches use coaching skills to help patients better manage a variety of chronic medical conditions (e.g., metabolic syndrome, diabetes, chronic pain); exploration of the science of health coaching, including evidence-based strategies and approaches to facilitate behavior change; students explore multiple modalities of coaching and build skills in motivational interviewing, goal setting, and active listening; knowledge and skills needed to perform tasks required of a competent coach. Prerequisites: HHP:2200 and HHP:2310.

HHP:4030 Social Determinants of Health 3 s.h.
How health is determined by access to social and economic opportunities (e.g., quality of our schools, safety of neighborhoods, and quality of our social interactions); policy, environmental, and social factors that influence health; how collaboration among federal, state, and local-level partners can improve health; goals and objectives of Healthy People 2020 (U.S. Federal Health Promotion Planning Guide) will be used to frame course material. Prerequisites: HHP:2200 and HHP:2310.

HHP:4040 Health Services 3 s.h.
Barriers to quality health care access (e.g., lack of availability, high costs, lack of insurance coverage, health disparities); consequences of such barriers (e.g., unmet health needs, delays in care, lack of preventive services, preventable hospitalization); innovative solutions for improving access and quality of care (e.g., technologies and innovations, improving access to preventive health services, reducing costs); novel ways to improve access and quality of today's health care system. Prerequisites: HHP:2200 and HHP:2310.

HHP:4110 Advanced Human Anatomy Laboratory 4 s.h.
Regional dissection of the human body. Prerequisites: HHP:3110 or HHP:3115.

HHP:4130 Skeletal Muscle Physiology 3 s.h.
Skeletal muscle structure, contractile mechanisms, production of movement, biomechanical properties; adaptation to increased use, disuse, injury. Prerequisites: HHP:3500 or HHP:3550.

HHP:4150 Clinical Exercise Physiology 3 s.h.
Recent advances in exercise physiology for clinical populations; emphasis on acute and chronic responses to exercise in healthy aged adults and in patients with cardiac, vascular, pulmonary, and metabolic diseases; basic and intermediate electrocardiography (ECG), pathophysiology of disease process, clinical assessment of disease severity, diagnostic testing, acute exercise responses, and exercise rehabilitation. Prerequisites: HHP:3500 or HHP:3550 or HHP:3400. Recommendations: HHP:4460.

HHP:4190 Scientific Basis of Training for Elite Performance 3 s.h.
Application of scientific principles to goal of improving strength, speed, endurance, and overall human function; general overview of structure and function of muscular, nervous, cardiovascular, and respiratory systems; bioenergetics of exercise; endocrine response to exercise; biomechanics of resistance exercise; adaptations to anaerobic and aerobic training programs; age and sex related considerations on training; nutrition and ergogenic aids. Prerequisites: HHP:3500 or HHP:1300.

HHP:4200 Metabolic Exercise Testing and Prescription 4 s.h.
Basic techniques in physical fitness assessment, prescription of exercise for healthy and unhealthy adults, promotion of physical activity within communities; provides knowledge and skill competencies required for certification as American College of Sports Medicine health fitness instructor. Prerequisites: HHP:2200 and (HHP:3400 or HHP:3500 or HHP:3550). Requirements: health promotion, exercise science, or human physiology major.

HHP:4210 Musculoskeletal Exercise Testing and Prescription 4 s.h.
Educational and practical experience for designing resistance training and flexibility programs; competencies for certification with National Strength and Conditioning Association. Prerequisites: HHP:2200 and (HHP:3400 or HHP:3500 or HHP:3550). Requirements: health promotion, exercise science, or human physiology major.

HHP:4220 Biomechanics of Human Motion 3 s.h.
Application of the principles of mechanics to investigation of human motion in two dimensions; system modeling, force system and equilibrium analysis, particle and rigid body kinematics, Newton's and Euler's equations of motion, work-energy and impulse-momentum integral principles. Prerequisites: (HHP:1100 or HHP:3105 or HHP:3115) and (PHYS:1400 or PHYS:1511 or PHYS:1611 or HHP:2350).

HHP:4230 Motor Learning: Theory and Application 3 s.h.
How skilled motor behavior is acquired; behavioral changes that occur during skill acquisition; structural and physiological changes that occur in central nervous system; principles of training and practice that yield efficient and effective motor learning; how this information is helpful to health professionals involved in motor rehabilitation, physical educators and coaches, music instructors and musicians, strength and conditioning professionals, fitness professionals, and athletes, among others. Prerequisites: HHP:1300. Recommendations: familiarity with basic neuroscience (neurons, synaptic transmission, basic anatomical organization of sensory and motor systems).

HHP:4250 Human Pathophysiology 3 s.h.
In-depth study of human pathological processes and their effects on homeostasis; etiology, symptoms, and risk factors of various diseases; emphasis on major diseases impacting worldwide disability and death; how pathological processes are manifested and progress in the body. Prerequisites: HHP:3500 or HHP:3550 or HHP:1300.

HHP:4260 Respiratory Pathophysiology 3 s.h.
Structure and function of human respiratory system; focus on didactic and case study-based learning; control of breathing, gas exchange, lung mechanics, regulation of pulmonary blood flow, respiratory responses to stress; application of these physiological concepts to case studies of human disease. Prerequisites: HHP:1300 or HHP:3500 or HHP:3550. Recommendations: PHYS:1511, and MATH:1460 or MATH:1850.

HHP:4300 Sensorimotor Neurophysiology 3 s.h.
Neuroanatomical and neurophysiological bases of human motor control; role of sensory and motor structures in control of posture, locomotion, and upper limb movements. Prerequisites: HHP:3500 or HHP:3550. Requirements: anatomy or human physiology course.

HHP:4310 Sport and Exercise Nutrition 3 s.h.
Relationship between nutrition, fitness and sport performance; basic nutrition, physiology, chemistry, psychology, food preparation. Prerequisites: HHP:2200 and HHP:2310.

HHP:4320 Nutrition Interventions 3 s.h.
Strategies that assist in assessment and evaluation of nutrition behaviors of individuals and groups; interventions to meet nutritional needs of individuals and groups with a variety of health issues. Prerequisites: HHP:2200 and HHP:2310.

HHP:4330 Physical Activity and Dietary Behavior Change 1,3 s.h.
Major determinants (barriers and facilitators) of physical activity and dietary behaviors; evidence-based behavior change techniques; application of behavior change techniques to improve physical activity and dietary behaviors at individual and organizational levels. Prerequisites: HHP:3050.

HHP:4350 Health and Human Physiology Practicum 1-3 s.h.
Experience in planning and implementing programs in the areas of fitness, strength and conditioning, nutrition, clinical rehabilitation, or health promotion. Prerequisites: HHP:1100 and HHP:2200 and HHP:2310 and (HHP:1300 or HHP:3500).

HHP:4365 Internship in Health Coaching 3 s.h.
Opportunity to develop and practice health coaching skills with community outreach programs, may include community health collaborative clinical health coaching, community behavioral health programs, and research studies engaging health coaches in intervention; students complete up to 45 hours of coaching in addition to project management, training, and internship development requiring a high level of professionalism. Prerequisites: HHP:4020.

HHP:4390 Understanding Human Disease 3 s.h.
Introduction to process of human disease at cell, organ, and whole body level throughout the lifespan; pathophysiological changes occurring with disease, including risk factors, disease development, and overall effects of disease on the body; cancer, diabetes, obesity, cardiovascular, neurodegenerative diseases, and aging. Prerequisites: HHP:1300 or HHP:1400. Recommendations: junior or senior standing.

HHP:4400 Health Promotion Clinical Practicum 1 s.h.
Experience in planning and implementing clinical health promotion programs focusing on nutrition, physical fitness, cardiac rehabilitation, and respiratory rehabilitation. Prerequisites: HHP:3200 and (HHP:4200 or HHP:4010).

HHP:4405 Health Promotion Community and Worksite Practicum 1 s.h.
Planning and implementing community and worksite health promotion programs. Prerequisites: HHP:3200 and (HHP:4200 or HHP:4010).

HHP:4410 Integrative Physiology of Exercise 3 s.h.
Evaluation of mechanisms underlying organ system responses and adaptations elicited by acute and chronic exercise, highlighting integrative nature of human physiological function, research methods, and classic and contemporary research findings in physiology of exercise. Prerequisites: HHP:3400 or HHP:3500 or HHP:3550.

HHP:4420 Planning and Evaluating Health Interventions 3 s.h.
Assessment, planning, implementation, and evaluation of health promotion programs. Prerequisites: HHP:3200.

HHP:4440 Physiology of Nutrition 3 s.h.
Metabolic and biological aspects of human energy production, relationship to energy consumption; systems or integrative approach. Prerequisites: HHP:1300 or HHP:3500 or HHP:3550.

HHP:4450 Human Genetics and Disease 3-4 s.h.
Fundamental concepts of human genetics including genome organization, expression of genes, and pedigree analysis; emphasis on role of genetics in human health and disease. Prerequisites: HHP:3500 or HHP:3550 or HHP:1300.

HHP:4460 Cardiovascular Physiology 3 s.h.
Structure and function of cardiovascular system; heart, microcirculation, hemodynamics, regional circulation, reflex integration, regulation during physical stress. Prerequisites: HHP:3500 or HHP:3550. Recommendations: calculus and physics.

HHP:4465 Environmental Exercise Physiology 3 s.h.
Study of physiological responses of the human organism to various forms of environmental stress at rest and during exercise; how physical performance is affected by environmental stressors such as heat, cold, altitude, microgravity, and hyperbaria. Prerequisites: HHP:3400 or HHP:3500 or HHP:3550.

HHP:4470 Physiology of Aging 3 s.h.
Aging's effects on cells, tissues, and organs; how aging influences function of major body organ systems and the whole organism; physiological mechanisms that underlie age-related changes in body function and performance; integrative approach with focus on human aging. Prerequisites: HHP:3500 or HHP:3550. Same as ASP:4470.

HHP:4490 International Medicine: Experiential Learning 3 s.h.
Experiential learning in select health care settings outside of the United States; for pre-health professional students.

HHP:4500 Undergraduate Independent Study arr.
Library or laboratory research related to a specific topic in human physiology, normally culminating with a written manuscript; work directed by a faculty member.

HHP:4510 Energetics in Health and Disease 3 s.h.
Comprehensive and molecular driven approach to: impairments in energy metabolism leading to obesity; type 2 diabetes and associated chronic diseases (e.g., cardiovascular diseases, cancer); and mechanisms by which exercise and calorie restriction regimens may prevent and/or reverse those impairments in skeletal muscle, adipose tissue, liver, and heart. Prerequisites: HHP:3500 or HHP:3550. Recommendations: HHP:4410 and BIOL:2723.

HHP:4700 Health and Human Physiology Teaching Internship 2-3 s.h.
Opportunity to serve as an undergraduate learning assistant in selected health and human physiology courses; learning assistants are generally expected to attend class or lab sessions for a specific course, engage with students in an intentional manner that supports their learning, and serve as a positive role model for their undergraduate peers; learning assistants receive training for development of interpersonal skills and facilitating collaborative learning environments, along with content-specific mentoring provided by course supervisor.

HHP:4800 Research Methods and Ethics 3 s.h.
Introduction to concepts, principles, and methods of research; topics include research design, data collection, data analysis, and reporting research; students identify and formulate research questions, design appropriate research, collect data using different methods, conduct data analysis, present research findings, and critically critique research literature; main ethical issues and professional conduct in scientific research. Requirements: honors standing.

HHP:4900 Honors Research 3 s.h.
Completion of honors research begun in HHP:4800; analysis of data, writing and oral presentation of honors thesis, work with an active research tenure-track faculty member in a laboratory; second of a two-semester sequence. Prerequisites: HHP:4800 with a minimum grade of B. Requirements: honors standing.

HHP:4930 Health and Human Physiology Internship arr.
Experience in planning and implementing programs in areas of research, fitness, strength and conditioning, nutrition, clinical rehabilitation, health promotion, health education, community outreach, or medical training; students explore, experience, prepare, network, and build skills for academic or professional development.

HHP:5200 Physical Activity Epidemiology 3 s.h.
Overview of epidemiological evidence on how physical activity, sedentary behavior, and sleep affect health outcomes including cardiovascular disease, diabetes, cancer, and obesity; emphasis on research design, interpretation of studies, selection of appropriate measurement tools, and translating scientific findings to recommendations/policies for health promotion and disease prevention.

HHP:5300 Advanced Human Physiology 3 s.h.
Provides an advanced study of human physiology for students entering health related fields; mechanisms of body function will be presented at various levels ranging from cellular and molecular, to tissue and organ system levels, with emphasis on integration of the various systems. Offered spring semesters. Prerequisites: HHP:1100 and HHP:3500.

HHP:5935 Clinical Exercise Physiology Internship 1-6 s.h.
Directed practical field experience; program planning, implementation, evaluation, and administrative procedures.

HHP:6000 Research arr.

HHP:6010 Nonthesis Seminar 2 s.h.
For candidates for the MS without thesis. Offered spring semesters.

HHP:6020 Advanced Research Methods and Ethics 1-3 s.h.
Introduction to concepts, principles, and methods of research; topics include research design, data collection, data analysis, and reporting research; students identify and formulate research questions, design appropriate research, collect data using different methods, conduct data analysis, present research findings, and critically critique research literature; main ethical issues and professional conduct in scientific research. Recommendations: concurrent enrollment in BIOS:5120 or STAT:6513.

HHP:6030 Physical Activity and Dietary Behavior Change 3 s.h.
Major determinants (barriers and facilitators) of physical activity and dietary behaviors; evidence-based behavior change techniques; application of behavior change techniques to improve physical activity and dietary behaviors at the individual and organizational levels.

HHP:6100 Health and Human Physiology Seminar 0 s.h.
Biweekly forum for research presentations by health and human physiology faculty and graduate students, and by invited guest speakers; attended by health and human physiology faculty and students, and by faculty and guests from other departments and programs on campus.

HHP:6130 Advanced Skeletal Muscle Physiology 1,3 s.h.
Skeletal muscle structure, contractile mechanisms, production of movement, biomechanical properties; adaptation to increased use, disuse, injury. Prerequisites: HHP:3500.

HHP:6150 Advanced Clinical Exercise Physiology 1,3 s.h.
Recent advances in exercise physiology for clinical populations; emphasis on acute and chronic responses to exercise in healthy aged adults and in patients with cardiac, vascular, pulmonary, and metabolic diseases; basic and intermediate electrocardiography (ECG), pathophysiology of disease process, clinical assessment of disease severity, diagnostic testing, acute exercise responses, and exercise rehabilitation. Prerequisites: HHP:3500. Recommendations: HHP:4460.

HHP:6200 Advanced Metabolic Exercise Testing and Prescription 1,4 s.h.
Basic techniques in physical fitness assessment; prescription of exercise for healthy and unhealthy adults; promotion of physical activity within communities; knowledge and skill competencies required for certification as American College of Sports Medicine health fitness instructor. Prerequisites: HHP:2200 and (HHP:1300 or HHP:3500).

HHP:6260 Advanced Respiratory Pathophysiology 1,3 s.h.
Complements HHP:4260; structure and function of human respiratory system; focus on didactic and case study based learning; control of breathing, gas exchange, lung mechanics, regulation of pulmonary blood flow, and respiratory responses to stress; application of these physiological concepts to case studies of human disease. Prerequisites: HHP:3500. Corequisites: HHP:4260.

HHP:6300 Motor Control Seminar 1 s.h.
Current topics in neural control of movement, biomechanics, and rehabilitation sciences.

HHP:6310 Advanced Sport and Exercise Nutrition 3 s.h.
Relationship between nutrition and dietetics and sport and exercise performance; application of nutrition, dietetics, physiology, chemistry, psychology, and food preparation to sport and exercise training and performance. Requirements: MCN graduate standing.

HHP:6400 Integrative Physiology Seminar 1 s.h.
Current topics in cardiovascular physiology, vascular biology, free radical biology.

HHP:6410 Advanced Integrative Physiology of Exercise 1,3 s.h.
Evaluation of mechanisms underlying organ system responses and adaptations elicited by acute and chronic exercise; integrative nature of human physiological function, research methods, and classic and contemporary research findings in physiology of exercise.

HHP:6460 Advanced Cardiovascular Physiology 1,3 s.h.
Structure and function of cardiovascular system; heart, microcirculation, hemodynamics, regional circulation, reflex integration, and regulation during physical stress. Prerequisites: HHP:3500. Recommendations: calculus and physics.

HHP:6470 Advanced Physiology of Aging 1,3 s.h.
Effects of aging on cells, tissues, and organs; how aging influences function of major body organ systems and the whole organism; physiological mechanisms that underlie age-related changes in body function and performance; integrative approach with focus on human aging. Prerequisites: HHP:1100 and HHP:3500.

HHP:6480 Advanced Human Pharmacology 1,3 s.h.
General pharmacology (administration, distribution, elimination of drugs, dose response curves, adverse effects, placebos, homeopathy); pharmacotherapy of selected human diseases, pathophysiologic aspects of disease, how different classes of drugs modify pathophysiologic effects to restore health or reduce impact of disease; focus on mechanisms of drug actions in humans; adverse effects, pharmacokinetic considerations, drug interactions; how to write prescriptions. Prerequisites: HHP:3500.

HHP:6500 Seminar in Health Promotion 1 s.h.
Peer and faculty response to graduate student work addressing health promotion, physical activity and health outcomes, clinical exercise physiology; review and critique current literature; presentation of published work or in-process projects; critical thinking, scientific writing, and oral communication skill development pertaining to health promotion.

HHP:6510 Advanced Energetics in Health and Disease 1,3 s.h.
Discussions of recent published, and/or seminal, state-of-the-art papers on energy metabolism related to exercise and diet interventions in context of obesity, diabetes, cardiovascular diseases, and cancer. Prerequisites: HHP:3500. Recommendations: HHP:4410 and BIOL:2723.

HHP:7000 Practicum in College Teaching arr.

HHP:7300 Advanced Sensorimotor Neurophysiology 1,3 s.h.
Neuroanatomical and neurophysiological bases of human motor control; mechanisms for locomotion and posture, control of arm and hand movements, role of sensory information. Prerequisites: HHP:3500 or HHP:3550. Requirements: anatomy or human physiology course.

HHP:7500 Thesis: MS 0-4 s.h.

HHP:7900 Thesis: PhD arr.

Sport and Recreation Management Courses

SRM:1000 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, readings, visits to research facilities).

SRM:1046 Health for Happiness 3 s.h.
Recent research has discovered fundamental elements and mechanisms of human happiness and well-being; students review these discoveries in the fields of positive psychology, positive neurobiology, system theory, economics of happiness, and history; practical learning experiences that apply these findings to everyday student life; hands-on ways to improve both subjective well-being and individual character strengths and virtues.

SRM:1060 Contemporary Issues in Sports 3 s.h.
Learn fundamental concepts and definitions to provide a base understanding of the business and socio-economic models that determine behavior in sport and recreation management practice. Examples will vary from spectator-driven sport at its most commercial to participant-driven activities with varying levels of formal organization. Evaluation is based on two exams, a group and an individual presentation in a smaller group, three writing exercises, and multiple quizzes.

SRM:1070 Recreation and Parks in the United States: Foundations and Impact 3 s.h.
United States parks have been referred to as "America's Best Idea" and represent ideals of exploration and challenge; park and recreational offerings have become a valued staple of American life, focused on opportunity for diverse communities with economic, social, and quality of life implications; introduction to cultural differences in values and expectations related to recreation and park experiences in the U.S.; students scrutinize the roots and contexts of their own recreation choices and attitudes, and gain insight into the power of these preferences on individual development and shaping of perspectives. GE: Values and Culture.

SRM:1072 Leisure and the Liberal Arts 3 s.h.
Integration of the ideal of a liberal education with worthy, meaningful use of free time in contemporary society; classic writings in the humanities. GE: Values and Culture.

SRM:1085 Introduction to Travel and Tourism 3 s.h.
Nature, scope, and significance of fields of travel and tourism: their histories, theories and philosophies, current trends, issues and challenges; critical analysis of current travel and tourism practices; green alternatives that are more sustainable and in keeping with values the field of leisure studies has long placed on active participation and local, community development.

SRM:2065 The Experience Economy 3 s.h.
Introduction to emerging experience economy; just as manufacturing sector of economy supersedes agriculture and service economy supersedes manufacturing, how experience economy is now gaining ascendancy as the last, best hope for future economic growth; critical analysis of experience economy with discussion of ways in which experience economy may offer green, moral, and humane alternatives to previous stages of economic development; new opportunities for travel and tourism, sports settings, recreation and wellness services, possible applications in education and helping professions.

SRM:3020 Nutrition in Health and Performance 3 s.h.
Effects of exercise and nutrition on health- and sports-related fitness; for professionals in health and physical education. Same as INTD:3027.

SRM:3144 Programming for Recreational Services 3 s.h.
Development of professional skills in design, implementation, and evaluation of recreational experiences in a variety of settings for diverse groups; programming concepts for delivering recreation and leisure activities through application-based projects; careers within recreational sports, fitness, and leisure industry that focus on enhancing lives through fun and personal development.

SRM:3145 Leadership and Group Dynamics in Recreation and Sport 3 s.h.
Exploration of leadership at many levels within an organization; students gain insights into fundamental principles of leadership and group dynamics and their incorporation into fostering staff development and facilitating group initiatives; active engagement in practical application of course concepts through designing and leading initiatives including productive meetings and seminars, team building, other outcomes-based training sessions, and group activities for all ages.

SRM:3146 Sports Officiating: Rules, Theories, and Issues 3 s.h.
Fundamental principles of officiating sports at all levels; supervision and management of officials for sport and recreation administrators; rules and mechanics of sports officiating, general qualifications to be a sports official, philosophy of officiating, teaching and evaluation methods for officials, and application of principles through officiating intramural sports.

SRM:3147 Sport Event Management 3 s.h.
Current status, challenges, and opportunities in sporting event industry; sporting event planning, budgeting, marketing, sponsorship, and evaluation; development of event timelines and event management skills; introduction to networking and interaction with sporting events. Recommendations: SRM:3154.

SRM:3148 Interscholastic Activities and Athletics Administration 3 s.h.
Survey of activities administration foundations including philosophy, leadership, professional programs and activities administration principles, strategies and methods; understanding of the techniques and theory of coaching concepts and strategies for interscholastic budget and concepts and strategies for interscholastic fundraising; basics of assessment and evaluation of interscholastic athletic programs and personnel, dealing with challenging personalities, and administration of professional growth programs for interscholastic personnel.

SRM:3149 Coaching Theory, Body Structure, and Human Development 3 s.h.
Comprehensive introduction to the coaching profession and obtaining a coaching license in the state of Iowa; ethics, licensing, and body development.

SRM:3150 Recreation Administration 3 s.h.
Personnel, finance, budgets, liability, marketing.

SRM:3151 Liability in Sport and Recreation 3 s.h.
The legal system shapes the way sport and recreation professionals at every level perform their jobs, and a basic understanding of the law and its impact on sport and recreation industry can help practitioners operate in a legally compliant manner, seek appropriate legal counsel when necessary, and reduce potential organizational and individual liability; exploration of tort law, constitutional law, statutory law, and contract law as applied to sport and recreation industry, and risk management process; students develop the ability to identify and analyze legal issues and how the law affects the sport and recreation industry. Requirements: 30 s.h. completed.

SRM:3152 Design and Management of Sport and Recreation Facilities 3 s.h.
Facilities management, personnel assignment and evaluation, fee structures, maintenance, programming, compliance with regulations and standards. Requirements: must have 30 s.h. completed.

SRM:3153 Sport Business Practices 3 s.h.
Business of professional and intercollegiate athletics including league, team, and player-level issues; revenue generation and distribution; competitive balance issues; sport league structure strategies; business behind intercollegiate athletics and challenges facing NCAA structure; negotiation. Requirements: must have 30 s.h. completed.

SRM:3154 Foundations of Event Management 3 s.h.
Large, major special events, professional meetings, and conferences; development and planning, implementation of events, management and evaluation of events; development requirements of planning events, development strategies, budgeting, staffing requirements, resource allocation, site planning, basic risk management requirements, emergency procedures; event implementation policy and procedures; relationship to elements within development stages; event management and evaluation procedures.

SRM:3155 Prevention and Care of Athletic Injuries for Coaches 3 s.h.
Comprehensive introduction to the sports world in relation to obtaining a coaching license in the state of Iowa in regards to first aid, injury prevention, and care.

SRM:3157 Managerial Operations in Sport and Recreation 3 s.h.
Introduction to the operation of a private or nonprofit sport-related business.

SRM:3158 Sport and Recreation Promotion 3 s.h.
Foundations and principles of recreation sport promotion and sales operation; application of foundations and principles to sport and recreation industries; historical aspects; current and future trends of sport and recreation management as it relates to sales and promotions; sales management, marketing, financial/economic, legal, and ethical principles related to sport management. Requirements: must have 30 s.h. completed.

SRM:3172 Finance in Sport and Recreation 3 s.h.
Capital funding and revenue acquisition for funding public and private sport and leisure service organizations; contemporary sport and leisure service; financial and economic issues. Requirements: 30 s.h. completed.

SRM:3175 Sales in Sport 3 s.h.
Fundamentals of business development and sales management; incentivizing sports consumers, direct and indirect sales strategies, brand communications, atmospherics, technology in sports sales, ticket sales, licensing products, negotiating sports sponsorships, and brand building. Recommendations: health and human physiology major.

SRM:3176 Sports Analytics for Coaches, Managers, and Other Decision Makers 3 s.h.
Data management, analytic models, and information systems; how sports analytics are used to make decisions for structuring athletic departments, develop in-game competitive strategies, and improve player performance; analytic examples applied to professional sports, college sports, high school sports, and fantasy sports; experience with statistics or computer science not required.

SRM:3178 Communications and Public Relations in Sports 3 s.h.
How public relations is used to promote service products, demonstrate social responsibility, and communicate with consumers and investors; campaigns, customer service, legal and ethical considerations in promoting service products, media events, information services, public relations in strategic management, atmospherics, critical service moment, social media. Recommendations: health and human physiology major.

SRM:3179 Podcasting for Sport and Recreation Professionals 3 s.h.
The rise of podcasting has democratized radio, offering anyone with recording equipment and something to say the ability to reach potential listeners, but with the number of active podcasts in the millions, developing a quality show that finds an audience is not so simple; introduction to all facets of podcast production from recording, editing, and publishing to marketing and monetizing; students conceive and create their own podcast pilots; consideration given to evolving landscape of podcasting and examination of how industry players are utilizing the rapidly expanding medium to grow their brands.

SRM:3200 Topics in Sport and Recreation Management 3 s.h.
Exploration of various issues shaping the future of sport and recreation industries; in-depth focus on a specific topic within sport or recreation utilizing the expertise of the instructor.

SRM:3210 Event Bidding: Processes and Strategies 3 s.h.
Event rights holders—such as the International Olympic Committee (IOC) and the National Collegiate Athletic Association (NCAA)—use a competitive bid process to select a location, venue, and host committee to plan and execute their sport events; non-sport organizations also use the bidding process to select hosts for exhibitions, conferences, and workshops; students learn the processes and strategies used by event rights holders and event hosts in event bidding process.

SRM:3300 Writing for Sport and Recreation Managers 3 s.h.
Students discover their unique writing style and routine; areas of weakness in writing process; necessary tools to become more efficient, clear, and effective writers; discussion, practice, and review of important writing skills; writing skills of diverse professional situations; proper mechanics of persuasive, informative, and factual writing; styles applied to document formats (e.g., press releases, résumés, cover letters, emails, memos, marketing messages, interviews, crisis management); guest speakers provide unique expertise and insight; student-centered, workshop format.

SRM:3700 Ethics in Sport 3 s.h.
Ethical development and decision-making processes in the sport and recreation industry including personal development, educational focused programming, and other types of ethics-based program development.

SRM:3800 Sport Law for Interscholastic Athletic Directors 3 s.h.
Part of the Interscholastic Athletic Director certificate; content includes sport unintentional torts, intentional torts, constitution, legislation, and risk management.

SRM:4158 Advanced Sport Marketing 3 s.h.
Build on the general principles of marketing by discussing the unique aspects of sport marketing and applying marketing concepts to sport as a product; focus on the importance of, and practical challenges associated with, branding and brand management. Advanced marketing theory related to social responsibility; research and information systems; consumer behavior; sport product and logistical management; social, digital, and mobile media and technologies; and communication management and promotions. Prerequisites: SRM:3158.

SRM:4195 Honors Problems arr.

SRM:4196 Interscholastic Athletic Administration Field Experience arr.
Students complete a minimum of 45 on-site hours with an interscholastic athletic/activities administrator or other approved interscholastic organization (i.e., conference or state office). Prerequisites: SRM:3148.

SRM:4197 Sport and Recreation Field Experience 3 s.h.
Educational opportunities involving a small group of students in a unique sport business experience; students serve as consultants for a sport or recreation organization; in-class preparation complements off-campus work with designated industry partner; sport or recreation enterprise vary according to faculty expertise and industry partner availability.

SRM:4198 NCAA Rules Compliance and Enforcement 3 s.h.
Rules that govern NCAA athletics, rules compliance function on campuses of member institutions, and enforcement of rules by NCAA; essential legislation in NCAA Manual, including bylaws covering recruiting, eligibility, and amateurism; history of NCAA as related to organization's current structure and activities; summer session capstone experience includes attendance at NCAA Regional Rules Seminar in Indiana and participation in educational sessions conducted by NCAA staff.

SRM:4199 Independent Sport and Recreation Field Experience arr.
Participation in approved practical learning experience with private or nonprofit recreation or sport-related enterprise; on-site supervision by industry partner; minimum of 45 on-site hours.

SRM:5065 The Economy of Experience 3 s.h.
In-depth analysis of emerging experience economy; just as manufacturing sector of economy supersedes agriculture and service economy supersedes manufacturing, how experience economy is gaining ascendancy as the last, best hope for future economic growth; exploration of current research in positive psychology and sociologist findings on evolution of post-materialist values as related to experience economy; evaluation of current trends; critical analysis and theory development; case studies; original research and investigation of novel marketing possibilities and experience design.

SRM:6251 Risk Management 3 s.h.
Legal knowledge necessary for effective management of sport, recreation, and physical activity programs, avoidance of legal problems; strategies for addressing issues such as right to participate, liability for injuries, risk management; legal statutes that govern sport, health, recreation organizations.

SRM:6252 Economics and Financing 3 s.h.
Economic issues for sport/leisure services in nonprofit, private/commercial, and public sectors; strategic financial analysis for the nonfinancial manager; principles, issues in financing sport/leisure organizations.

SRM:6253 Sport Administration 3 s.h.
Overview of various segments that constitutes the role and function of a sport administrator (i.e., planning, organizing, leading, controlling); focus on ways in which sport administrators and their subsequent organizations influence and are influenced by the link between sport and globalization; sport administration encompassing services provided within an organizational context; administration viewed as the coordination of production and distribution of those services.

SRM:6254 Marketing and Sport Promotion 3 s.h.
Overview of varied segments that constitutes sports business practice, including marketing, data-based marketing, sales, promotion, sponsorship; varied segments that make up the sport industry, including the mass media, infrastructure, stadium building, consumer behavior; readings and discussions consider the development and structure of each segment, interactions between segments, planning, policy implications; focus on the United States, professional team sports, comparisons to other sports.

SRM:6255 Capstone Project 3 s.h.
Development of a project applying expertise acquired through required coursework to an area of interest fitting student's career ambitions; includes final presentation to a faculty committee and written paper to support the presentation. Prerequisites: SRM:5065 and SRM:6251 and SRM:6252 and SRM:6253 and SRM:6254.

Therapeutic Recreation Courses

TR:1000 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, readings, visits to research facilities).

TR:1070 Perspectives on Leisure and Play 3 s.h.
Relationships between leisure and economics, sociology, other social sciences; effect of leisure on individual and group behavior; antecedents, motives, consequences of leisure behavior. GE: Social Sciences.

TR:1800 Aging Matters: Introduction to Gerontology 3 s.h.
Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, CSD:1800, NURS:1800, SSW:1800.

TR:2061 Recreation Leadership and Programming 3 s.h.
Leadership principles, techniques; programming techniques.

TR:2077 Introduction to Child Life 3 s.h.
Orientation to the field of child life services including services for hospitalized children and their families.

TR:2160 Introduction to Therapeutic Recreation 3 s.h.
Lifestyles and barriers faced by persons with disabilities; basic aspects of the therapeutic recreation profession; skills used to establish therapeutic relationship; techniques used with patients; theoretical and conceptual bases for practice.

TR:3161 Assessment and Evaluation in Therapeutic Recreation 3 s.h.
Basic assessment psychometrics (e.g., reliability), standardized instrumentation and data collection (e.g., observation, self-report), construction of instruments, data reduction. Prerequisites: TR:2160.

TR:3162 Therapeutic Recreation: Clientele 3 s.h.
Developmental patterns of special populations; examination of specific interventions and research applied to specific cognitive, emotional, and physical impairments.

TR:3163 Concepts and Issues in Therapeutic Recreation: Advancement of the Profession 3 s.h.
Ethical, professional, and theoretical issues in delivery of therapeutic recreation services; impact of legislation, standards of practice, health care reform; application of research to practice and marketing services. Prerequisites: TR:2160.

TR:3164 Therapeutic Recreation: Rehabilitation 3 s.h.
In-depth review of therapeutic recreation techniques used in clinical and community rehabilitation; opportunities to use techniques with patients. Prerequisites: TR:2160.

TR:3171 Child Life Practical Application 3 s.h.
Overview of medical conditions and treatments commonly encountered by children and adolescents in health care settings; common pediatric sedation medications; sequence of medical procedures to understand how to provide procedural preparation and support; facilitate medical play with pediatric population.

TR:3174 Cultural Perspectives in Health Care 3 s.h.
Health care beliefs related to various cultures and religions; focus on illness, hospitalization, treatment, death.

TR:3261 Inclusive Recreation 3 s.h.
Laws pertaining to access to recreation and leisure opportunities for disabled persons in a community; evaluation of physical access to built environment; how social construction of disability can be a barrier to integrated leisure involvement; practical aspects of how to include disabled persons in community recreation and sport activities.

TR:3262 Therapeutic Recreation Administration 3 s.h.
Examination of the organization and administration of therapeutic recreation services; focus on planning, organizing, and managing therapeutic recreation services; comprehensive and strategic planning, funding, marketing, legal and legislative issues, personnel management, and professional practice of therapeutic recreation. Prerequisites: TR:2160.

TR:3281 Special Projects in Child Life Practice 2 s.h.
Student directed and student led hospital camping experience for patients at the University of Iowa Children's Hospital; planning and preparing for a large function, planning and leading therapeutic activities, working directly with patients and their families, processing and discussion of experiences and concerns; practical and clinical-based experiences for students interested in working with pediatric population in health care setting. Requirements: hospital orientation, patient confidentiality (HIPAA) training, and health screening.

TR:4169 Child Life Experience 1 s.h.
Practical experience with ill children, including a trip to the Give Kids the World village in Florida; documentation and engagement of course materials, experience working with ill children; students are assigned a specific diagnosis and present the diagnosis (appropriate statistics, effects of hospitalization, treatment, etc.) on child and family; coping strategies, appropriate methods of talking to and interacting with children and families, overview of child life in hospitals.

TR:4190 Preinternship Seminar 1 s.h.
Interviewing skills, résumés and cover letters, selection of internship site(s), application procedures for internship positions, and responsibilities of interns to the agency. Requirements: admission to NCTRC certification track.

TR:4191 Therapeutic Recreation Internship arr.
Practical field experience; direct leadership, program planning, administrative procedures. Prerequisites: TR:4190. Requirements: overall GPA of 2.00 and major GPA of 2.00.

TR:4193 Independent Study arr.
Problem in a specific area.

TR:4194 Honors Readings arr.
Independent reading or research project under faculty supervision usually leading to an honors paper. Requirements: admission to honors program.

TR:4195 Honors Problems arr.
Completion of a project over and above normal independent study as an honors project; major research effort involving close work with an advisor.

TR:4197 Practicum in Therapeutic Recreation 1-3 s.h.
Educational opportunity in inclusive and therapeutic recreation professional settings; development of skills, techniques, and proficiencies under guidance of experienced professionals and academic supervisors; students gain experience with various populations and differing abilities; academic research, in-class preparation, and off-campus work with designated agency. Same as DST:4198.

TR:5165 Child Life: Child Development and Healthcare Interventions 3 s.h.
Application of typical growth and development content, including theoretical content for children and adolescents (birth to 18 years old); theories of cognitive development, psycho-social development, and attachment applied to essential healthcare interventions unique to child life practice; history of child life profession and scope of practice; application of developmental perspectives to intervention (e.g., education, healthcare play, support and coping interventions, pain management, bereavement).

TR:5166 Child Life: Seminar 3 s.h.
Students utilize official documents of the Association of Child Life Professionals (ACLP) and evidenced-based practice to understand current issues and research in child life as well as the expanding scope of service; cultural issues and impact of care for children and families; need for understanding of cultural diversity in a variety of settings; meets the six requirements of a child life course taught by a Certified Child Life Specialist (CCLS) for the ACLP including professional scope of practice in child life, impact of illness and hospitalizations of children and families, patient and family-centered care, therapeutic play, and preparation.

TR:5167 Child Life Practicum 1-3 s.h.
Observational experience with children and families in hospitals and other community settings to understand the scope of practice for child life; development of basic clinical skills in child life; opportunities to observe the integration of theories with practice and understand the impact of illness, injury, and health care on patients and families; integration of therapeutic play and preparation for children; academic requirements in addition to clinical observation hours under supervision of a Certified Child Life Specialist in hospital, outpatient, rehabilitation, camp, or bereavement setting.

TR:5205 Research Methods and Play Behavior 3 s.h.
The scientific process: research designs for experiments and surveys, questionnaire construction, sampling theory, basic data analysis.

TR:5211 Professional Ethics and Practice in Pediatrics 3 s.h.
Examination of core issues in clinical pediatrics; beginning life critical care, end-of-life care, role of medical technology, public health research pertinent to children, and maintaining professional boundaries. Prerequisites: TR:1077.

TR:5260 Play and Childhood arr.
Multiple levels of theories and current research on importance of play in child development; advocacy for importance and necessity of play in childhood that leads to well-being and healthy lifestyles; practical and theoretically based experiences; for students interested in working with children in health care, clinical, school, community, and family life settings.

TR:5261 Family Systems 3 s.h.
Examination of dynamics of family life as a social system from a historical, sociocultural, and theoretical perspective; approaches to working with diverse children and families facing life stresses; interactive format, incorporates experiential learning, classroom lecture, and discussion.

TR:5270 Child Life Internship 4-5,9,12 s.h.
Child life student interns complete a minimum 15-week, 600-hour field experience under supervision of a Certified Child Life Specialist to meet certification requirements of the Association of Child Life Professionals; students are required to complete academic coursework in addition to clinical requirements. Prerequisites: TR:5165 and TR:5166 and TR:5167 and TR:5205 and TR:5211 and TR:5260 and TR:5261.

TR:6200 Child Life Graduate Forum 0 s.h.
Informational sessions, networking, review of research scholarship, resources, and joint collaboration for first- and second-year child life graduate students. Requirements: enrollment in Department of Health and Human Physiology MS child life track.

Health and Physical Activity Skills Courses

HPAS:1001 Alcohol and Your College Experience 1 s.h.
Patterns of alcohol, drug use focused on college years; strategies for monitoring use, behavioral change plans for implementing lower-risk drinking practices; for drinkers and non-drinkers.

HPAS:1002 Vaping, Tobacco Use, and Your College Experience 1 s.h.
Current behavior change theories related to tobacco use and cessation; vaping, nicotine replacement therapies (NRT), and non-NRT methods; triggers, relapse prevention, cognitive behavioral skills, and support systems; for smokers and nonsmokers.

HPAS:1003 Resiliency and Your College Experience 2 s.h.
Resiliency and psychological hardiness theories relevant to college life; resiliency and ability to cope with challenges; components of psychological fitness; skills for personal growth and emotional well-being.

HPAS:1004 Food and Your College Experience 2 s.h.
Sociocultural perspective on the forces that facilitate low-quality diets, particularly during young adulthood; basic components of nutrition; opportunity to develop and personalize healthy eating skills.

HPAS:1005 Indoor Group Cycling 1 s.h.
Introduction to group cycling; bike setup, safety, proper technique, injury prevention, and utilization of interval training.

HPAS:1006 Intuitive Eating 1 s.h.
How to create and sustain a healthy relationship with mind, body, food, and exercise using an evidence-based approach; introduction to 10 basic principles of intuitive eating, taking a critical look at dieting and a healthful approach to satisfying eating balanced with exercise.

HPAS:1007 Basic CPR 1 s.h.
Basic, beginner-level information on CPR procedures; passing the course leads to certification in CPR; more advanced certifications may be sought for medical professionals.

HPAS:1008 Basic First Aid and CPR 1 s.h.
Basic, beginner-level information on automated external defibrillator (AED), CPR, and first aid procedures; in-class certification testing leads to certification in CPR and first aid; more advanced certifications may be needed for medical professionals.

HPAS:1009 Personal Fitness: Theory and Practice 2 s.h.
Introduction to dimensions of wellness with focus on health-related components of physical fitness; varied health and wellness topics; emphasis on engaging in physical activity to create a sustainable lifelong habit; theory, practice, physical activity; application of materials and exercise; prior physical activity or exercise experience not required.

HPAS:1010 Introduction to Workout Design 1 s.h.
Introduction to personal workout programming and design; includes sections on cardiovascular fitness, muscular strength and endurance, and flexibility.

HPAS:1020 Core Strengthening 1 s.h.
Introduction to developing strength, flexibility, and endurance through the core; students will learn what the core is, how to best develop the muscles of the core, and why core training is important.

HPAS:1030 Cardio Training 1 s.h.
Beginner's guide to cardio fitness to develop and maintain levels of cardiovascular health and fitness.

HPAS:1040 Pilates I 1 s.h.
Introduction to the study and practice of Pilates for beginners; topics include proper breathing techniques, flexibility, balance, relaxation, and Pilates exercises.

HPAS:1045 Pilates II: Intermediate Pilates 1 s.h.
Study and practice of Pilates; intermediate and advanced Pilates moves; modifications and use of props based on current ability level; musculoskeletal anatomy and biomechanics as related to Pilates. Prerequisites: HPAS:1040.

HPAS:1060 High Intensity Interval Training 1 s.h.
Increased fitness levels through principles of resistance training using a high-intensity interval training (HIIT) method; various types of resistance (free weights, rubber bands, partner resistance, and body weight resistance); topics include muscular anatomy, principles of resistance training, various resistance training exercises, safety, motivation and goal setting, and personal program design.

HPAS:1070 Introduction to Weight Training 1 s.h.
Introduction to basic principles of weight training using barbells and dumbbells as resistance; muscular anatomy, principles of weight training, muscular strength, muscular endurance, weight room safety, motivation and goal setting, personal program development; no prior weight training experience required.

HPAS:1080 Olympic Weightlifting 1 s.h.
Beginning-level introduction to classical Olympic weightlifting movements leading up to the snatch, clean and jerk, power snatch, and power clean. Recommendations: HPAS:1070 and/or an understanding of weight training fundamentals and basics.

HPAS:1090 Sports Skills and Drills 1 s.h.
Develop and practice basic skills and game strategy for an array of team sports; participate in a variety of educational and competitive physical activities that may include flag football, soccer, basketball, tennis, pickleball, and racquetball.

HPAS:1100 Kettlebell Training 1 s.h.
Introduction to basic principles and benefits of using kettlebells for strength, power, mobility, weight loss, and more; topics include history, mobility drills, foundational movements (e.g., deadlift, swing, clean, press, Turkish Get Up, high pull, snatch), safety, goal-setting, and personal program development.

HPAS:1110 Fitness Walking 1 s.h.
Walking as a means to improve cardiovascular health and fitness; utilizes outdoor walking, weather permitting, or the indoor track.

HPAS:1130 5K Training 1 s.h.

HPAS:1140 PE Games 1 s.h.
Participation in and design of physical activity games and skills; students improve physical health through cardio endurance and resistance training during game play; games and variations of games may consist of basketball, dodgeball, tag, volleyball, and other physical activities; how to be physically active and healthy while having fun; physiological responses to physical activity.

HPAS:1150 Introduction to Health and Wellness 1 s.h.
Optimal physical health and wellness in the college years; focus on behavioral change and goal setting, five components of fitness, dimensions of wellness, and stress management.

HPAS:1210 Stress Management 1 s.h.
How to define the sources of underlying stress, learn to cope with everyday stressors, and become more proactive through life skill management.

HPAS:1220 Flexibility 1 s.h.
Help students move through full range of motion, work to correct imbalances, and ultimately move better through activities of daily living.

HPAS:1230 Hatha Yoga 1 s.h.
Introduction to the study and practice of yoga; geared towards beginners.

HPAS:1235 Hatha Yoga II: Intermediate Hatha Yoga 1 s.h.
Study and practice of Hatha Yoga; topics may include history and philosophy of Hatha Yoga, props and modifications, and biomechanics and anatomy as it relates to yoga. Prerequisites: HPAS:1230.

HPAS:1240 Power Yoga 1 s.h.
Build strength, flexibility, and balance while maintaining traditional yoga emphasis of breath and intention; breath and movement are linked as you flow in and out of a combination of vinyasas (yoga sequences) and balancing poses; topics include proper breathing techniques, sun salutations, arm balances, backbends, and inversions. Requirements: basic understanding and background in yoga; a 6-week yoga practice is recommended.

HPAS:1260 Movement and Mobility 1 s.h.
Introduction to basic self-care and movement recommendations for injury prevention, efficient movement, and health; topics include posture and movement correction and form, optimization of daily movement patterns, and self-care principles; prior exercise experience not required.

HPAS:1320 Lap Swimming I 1 s.h.
Introduction to swim stroke development utilizing swimming as a form of exercise; this is not a learn-to-swim class and a basic prerequisite swimming test will be performed prior to instruction.

HPAS:1400 Pickleball 1 s.h.
Introduction to the game of pickleball; rules of the game, terminology, key offensive and defensive strategies, and drills to help improve performance; class time involves instruction, practice, and playing time; no prior pickleball experience required.

HPAS:1410 Badminton 1 s.h.
Introduction to the game, rules, and skills involved in badminton.

HPAS:1440 Table Tennis 1 s.h.
Introduction to the game, rules, and skills involved in table tennis.

HPAS:1460 Basketball I 1 s.h.
Introduction to the game of basketball at the beginning level, assumes little or no prior basketball experience; students learn rules of the game, basketball terminology, key offensive and defensive strategies, fundamental skills (e.g., dribbling, passing, catching, shooting, rebounding, defending), and drills to help improve performance; course format consists of instruction, practice, and playing time.

HPAS:1530 Volleyball I 1 s.h.
Introduction to the game, rules, and skills involved in volleyball.

HPAS:1535 Volleyball II 1 s.h.
Advanced skill refinement course geared towards students who have passed HPAS:1530 or are able to show mastery of the basic techniques. Prerequisites: HPAS:1530.

HPAS:1540 Soccer I 1 s.h.
Beginner-level introduction to the game of soccer; students learn rules, terminology, and basic offensive and defensive strategies; fundamental skills of dribbling, passing, trapping, and shooting; individual practice, partner, and small group drills; small and large field games; course format consists of instruction, practice, and playing time.

HPAS:1560 Ultimate Frisbee 1 s.h.
Introduction to the game, rules, and skills involved in ultimate frisbee; course will meet outside, weather permitting.

HPAS:1610 Self Defense 1 s.h.
Introduction to the practice of self-defense through upper and lower body strikes, joint manipulation, and other personal protection measures; this is a noncontact course.