DEPARTMENT OF HEALTH AND EXERCISE SCIENCE

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www.chhs.colostate.edu/hes (https://www.chhs.colostate.edu/hes/)
Professor Barry Braun, Department Head

The Department of Health and Exercise Science provides undergraduate and graduate education as well as serving as the home for the Human Performance Clinical Research Laboratory, Heart Disease Prevention Program (HDPP), Adult Fitness Program, Noon Hour program, and Fit Cancer program.

The HES mission is to create an environment of exceptional teaching and learning, outstanding research and scholarship, and engagement that provides high value to the community. We are committed to our goal of producing nationally and internationally recognized research programs and graduates that focus on helping people protect, maintain, and improve their health and quality of life throughout the lifespan.

The Department of Health and Exercise Science provides the following academic program specializations:

- Health and Exercise Science Major (B.S.) with tracks in Health Promotion and in Sports Medicine
- Master’s degree in Health and Exercise Science (M.S.)
- Doctorate in Human Bioenergetics (Ph.D.)

Undergraduate Majors

- Major in Health and Exercise Science (http://catalog.colostate.edu/general-catalog/colleges/health-human-sciences/health-exercise-science/health-exercise-science-major/)
  - Health Promotion Concentration (http://catalog.colostate.edu/general-catalog/colleges/health-human-sciences/health-exercise-science/health-exercise-science-major-promotion-concentration/)
  - Sports Medicine Concentration (http://catalog.colostate.edu/general-catalog/colleges/health-human-sciences/health-

exercise-science/health-exercise-science-major-sports-medicine-concentration/)

Minor

- Minor in Health and Exercise Science (http://catalog.colostate.edu/general-catalog/colleges/health-human-sciences/health-exercise-science/health-exercise-science-minor/)

Certificate


Graduate

Graduate Programs in Health and Exercise Science

The department offers two graduate degrees: the Master of Science in Health and Exercise Science, and the Doctor of Philosophy in Human Bioenergetics. Students interested in a Master’s degree in Public Health with a focus in Health and Exercise Science can refer to the School of Public Health (http://publichealth.colostate.edu/). Students interested in graduate work should refer to the Graduate and Professional Bulletin (http://catalog.colostate.edu/general-catalog/graduate-bulletin/) and the Department of Health and Exercise Science (http://hes.chhs.colostate.edu).

Master’s Programs

- Master of Science in Health and Exercise Science, Plan A (http://catalog.colostate.edu/general-catalog/colleges/health-human-sciences/health-exercise-science/plan-a-health-exercise-science-ms/)

Ph.D.

- Ph.D. in Human Bioenergetics (http://catalog.colostate.edu/general-catalog/colleges/health-human-sciences/health-exercise-science/bioenergetics-phd/)

Courses

Health and Exercise Science (HES)

HES 102C Physical Education Activities: Special Activities Credit: 1 (0-3-0)
Course Description: Physical activities for the development of personal motor skills.
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

HES 102G Physical Education Activities: Athletics Credit: 1 (0-3-0)
Course Description: Physical activities for the development of personal motor skills.
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.
HES 120 Introduction to Health and Exercise Science  Credit: 1 (1-0-0)
Course Description: Health and Exercise Science major, career options, campus resources, tools for academic success, various health-related topics.
Prerequisite: None.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 145 Health and Wellness  Credits: 3 (3-0-0)
Course Description: Personal health behaviors and personal choice in response to wellness.
Prerequisite: None.
Registration Information: Credit not allowed for both HES 145 and HES 143. Sections may be offered: Online.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 202 Introduction to Exercise Physiology  Credits: 3 (3-0-0)
Course Description: Introduction to how cells, tissues and organs function in human health, disease and in response to exercise. Emphasis on the practical application of this material to contemporary issues in health and exercise science.
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 207 Anatomical Kinesiology  Credits: 4 (3-0-1)
Course Description: Human musculoskeletal anatomy and its application to movement. Also includes selected principles of biomechanics and physiology related to the study of kinesiology.
Prerequisite: None.
Registration Information: Must register for lecture and recitation.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 232 Techniques of Teaching Group Exercise  Credit: 1 (0-2-0)
Course Description: Learn practical skills for the instruction of various group fitness activities. Emphasis is on physiological principles related to group fitness, as well as choreography, safety, and modifications for diverse populations and current trends.
Prerequisite: HES 207.
Registration Information: Credit allowed for only one of the following: HES 232, HES 232B, or HES 332H.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 300 Physiology for Clinical Health Professions  Credits: 4 (4-0-0)
Course Description: Integrative understanding of human physiology with a systems based approach that includes examination of the effect of chronic disease on the physiological function of organ systems. Designed for students interested in pursuing careers working with clinical populations.
Prerequisite: (BZ 101 or BZ 110 or LIFE 102) and (CHEM 103 or CHEM 107 or CHEM 111).
Restriction: Must not be a: Freshman.
Registration Information: Sophomore standing.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 303 Biomechanics and Neurophysiology  Credits: 3 (3-0-0)
Course Description: Study and elementary analysis of human movement based on anatomical, neurophysiological, and mechanical principles.
Prerequisite: HES 207.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 307 Biomechanical Principles of Human Movement  Credits: 3 (3-0-0)
Course Description: Study and analysis of human motion based on anatomical and mechanical principles.
Prerequisite: (BMS 301 or HES 207) and (PH 121 or PH 141).
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 309 Methods of Coaching  Credits: 2 (2-0-0)
Course Description: Preparation to coach in an interscholastic athletic situation.
Prerequisite: None.
Registration Information: Sections may be offered: Online.
Term Offered: Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 319 Neuromuscular Aspects of Human Movement  Credits: 4 (3-2-0)
Course Description: Neuromuscular anatomy and physiology of human movement. Applied/integrated topics: aging, muscle fatigue, training, force control, and neuromuscular disease.
Prerequisite: (FSHN 150 and HES 145 and HES 207) and (BMS 300 or HES 300).
Registration Information: Must register for lecture and laboratory. Must have earned a cumulative 2.500 GPA in: FSHN 150, HES 145, HES 207 and BMS 300 or HES 300.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 340 Exercise Prescription  Credits: 3 (2-2-0)
Course Description: Theory and practice of exercise prescription for healthy individuals, cardiac patients, and other special populations according to the American College of Sports Medicine (ACSM) guidelines. Includes the practice of proper lifting and spotting techniques, manipulation of training variables, and design of safe, effective, and efficient individual workout programs.
Prerequisite: (FSHN 150 with a minimum grade of C and HES 145 with a minimum grade of C and HES 207 with a minimum grade of C) and (BMS 300 with a minimum grade of C or HES 300 with a minimum grade of C).
Registration Information: Must register for lecture and laboratory. Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
HES 345  Population Health and Disease Prevention  Credits: 3 (3-0-0)
Course Description: Causes of disease throughout the lifespan and interventions designed to prevent disease.
Prerequisite: HES 145.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 354  Theory of Health Behavior  Credits: 3 (3-0-0)
Course Description: Health behavior (HB) theories and their application to health promotion (HP) programs. Multi-level factors that interactively impact human HBs, theoretical foundations for these factors, and the relationship between HBs & selected health outcomes. Discuss application of HB theories, and examine HP programs that have applied these theories in different settings and high risk populations.
Prerequisite: HES 145 and HES 354.
Registration Information: Completion of 60 credits.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 355  Integration of Health Behaviors  Credits: 3 (3-0-0)
Course Description: Designed to guide students in applying their knowledge of health behavior change to individuals with various health challenges. Explores a variety of health topics including understanding stress and coping and managing stress, behavioral factors in chronic disease, and behavioral health.
Prerequisite: HES 340 and HES 354.
Registration Information: Completion of 60 credits.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 379  Psychology and Sport  Credits: 3 (3-0-0)
Course Description: Reciprocal relationship between psychological factors and sport and exercise behavior.
Prerequisite: PSY 100.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 386  Practicum—Adult Fitness  Credits: 2 (1-2-0)
Course Description: Adult fitness.
Prerequisite: HES 232 and HES 340 with a minimum grade of C.
Registration Information: Must have earned a cumulative 2.500 GPA in: BMS 300, FSHN 150, HES 145, and HES 207. Must register for lecture and laboratory.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 403  Physiology of Exercise  Credits: 3 (3-0-0)
Course Description: Effects of exercise on tissues, organs, and systems of the body.
Prerequisite: BMS 300 or BMS 360 or HES 300.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 404  Physiology of Exercise Laboratory  Credit: 1 (0-2-0)
Course Description: Application of the effects of exercise on various systems, organs, and tissues of the body through laboratory experiences.
Prerequisite: HES 403, may be taken concurrently.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 420  Electrocardiography and Exercise Management  Credits: 3 (2-2-0)
Course Description: Interpretation of 12-lead ECG tracings, administering exercise tests, and prescribing exercise program for healthy individuals and special populations.
Prerequisite: BMS 300 or BMS 360 or HES 300.
Restriction: Must not be a: Freshman.
Registration Information: Must register for lecture and laboratory.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 432  Virtual Coaching for Wellness  Credits: 3 (2-0-1)
Course Description: Practical application of health and wellness knowledge to a clientele population via a virtual format.
Prerequisite: HES 145.
Restriction: Must not be a: Freshman.
Registration Information: Must register for lecture and recitation. Offered as Mixed Face-to-Face. Credit not allowed for both HES 432 and HES 480A1.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 434  Physical Activity Throughout the Lifespan  Credits: 3 (3-0-0)
Course Description: Impact of physical activity on biology and physiology of human development and aging processes.
Prerequisite: BMS 300 or HDFS 201 or HES 300.
Registration Information: Junior standing. Sections may be offered: Online. Credit not allowed for both HES 434 and HES 444.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 450  Introduction to Human Clinical Medicine  Credits: 3 (3-0-0)
Course Description: Introductory concepts of clinical medicine including how to take and write a medical history and form a differential diagnosis. Using a case-based approach, common and uncommon diseases and scenarios and the associated medical physiology will be explored. Some basic student-healthcare professional skills are introduced including interpretation of diagnostic tests. Designed for students interested in pursuing a career in medicine.
Prerequisite: None.
Restriction: Must not be a: Freshman, Sophomore.
Registration Information: Completion of AUCC category 3A.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 455  Health Promotion Programming  Credits: 3 (3-0-0)
Course Description: Investigation of established health promotion programs with special emphasis on design, implementation, and evaluation of programming models.
Prerequisite: HES 355 and HES 386 and HES 403.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.
HES 476 Exercise and Chronic Disease  Credits: 3 (3-0-0)
**Course Description:** Interaction of physical activity with pathophysiology and treatment of chronic diseases and conditions.
**Prerequisite:** BC 351 and Fshn 350 and HES 403.
**Terms Offered:** Fall, Spring, Summer.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

HES 478A Sports Medicine Capstone: Seminar  Credits: 3 (0-0-3)
**Course Description:** Integration and reflection on health and exercise science disciplinary knowledge.
**Prerequisite:** (HES 307 or HES 319) and (HES 340 and HES 403).
**Registration Information:** Senior standing.
**Terms Offered:** Fall, Spring.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

HES 478B Sports Medicine Capstone: Research  Credits: 3 (0-6-0)
**Course Description:** A capstone experience that provides an opportunity to be involved with research in health and exercise science.
**Prerequisite:** (HES 307 or HES 319) and (HES 340 and HES 403).
**Registration Information:** Senior standing. Written consent of instructor.
**Terms Offered:** Fall, Spring.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

HES 478C Sports Medicine Capstone: Teaching  Credits: 3 (0-6-0)
**Course Description:** A capstone course that provides an opportunity to be involved with instruction of a course in Health and Exercise Science.
**Prerequisite:** (HES 307 or HES 319) and (HES 340 and HES 403).
**Registration Information:** Senior Standing. Written consent of instructor.
**Terms Offered:** Fall, Spring.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

HES 478D Sports Medicine Capstone: Service Learning  Credits: 3 (0-6-0)
**Course Description:** A capstone experience that provides an opportunity to be involved with a service-learning project in the community that applies knowledge of Health and Exercise Science.
**Prerequisite:** (HES 307 or HES 319) and (HES 340 and HES 403).
**Registration Information:** Senior Standing. Written consent of instructor.
**Terms Offered:** Fall, Spring.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

HES 484 Supervised College Teaching  Credits: Var[1-5] (0-0-0)
**Course Description:**
**Prerequisite:** None.
**Registration Information:** Maximum of 10 credits allowed in course. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.
**Terms Offered:** Fall, Spring, Summer.
**Grade Mode:** Instructor Option.
**Special Course Fee:** No.

HES 486 Practicum–Wellness Program Management  Credits: 3 (1-4-0)
**Course Description:**
**Prerequisite:** HES 386.
**Registration Information:** Junior standing. Must register for lecture and laboratory. Credit not allowed for both HES 486 and HES 486B.
**Terms Offered:** Fall, Spring, Summer.
**Grade Mode:** Instructor Option.
**Special Course Fee:** No.
HES 496B  Group Study: Athletics  Credits: Var[1-18]  (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 496C  Group Study: Biomechanics  Credits: Var[1-18]  (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 496D  Group Study: Exercise Science  Credits: Var[1-18]  (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 496E  Group Study: Neuromuscular Physiology  Credits: Var[1-18]  (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 496F  Group Study: Group Study:  Credits: Var[1-18]  (0-0-0)
Course Description:
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 500  Environmental Exercise Physiology  Credits: 3  (3-0-0)
Course Description: Enhance the understanding of human physiology and how the various physiological systems respond to environmental stressors. Integrate previous knowledge of human physiology and apply it to the physiological response to heat stress, cold stress, hyperbaric atmosphere, hypobaric atmosphere, pollution, and sleep deprivation.
Prerequisite: BMS 420 with a minimum grade of B or HES 403 with a minimum grade of B.
Restriction: Must not be a: Freshman, Sophomore.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 510  Bioethics--Concepts and Controversies  Credits: 3  (2-0-1)
Course Description: Origins of bioethics and analysis of cases/controversies in contemporary bioethics.
Prerequisite: None.
Restriction: Must not be a: Freshman, Sophomore.
Registration Information: Admission to health and exercise science graduate program or consent of the instructor. Must register for lecture and recitation.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 520  Advanced Exercise Testing and Prescription  Credits: 3  (2-2-0)
Course Description: Theory and practice of exercise testing and prescription in apparently healthy and diseased populations.
Prerequisite: HES 403.
Registration Information: Must register for lecture and laboratory.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 530  Clinical Biomechanics  Credits: 3  (3-0-0)
Course Description: Effect of external loads on internal tissues; concern for injury, injury prevention, and rehabilitation.
Prerequisite: BMS 301 and HES 307.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 531  Muscle and Joint Mechanics  Credits: 3  (3-0-0)
Course Description: Integrate muscle, tendon, and location of bone attachment into a comprehensive understanding of human movement at the single- and multi-joint level.
Prerequisite: BMS 301 and HES 307.
Term Offered: Fall (even years).
Grade Mode: Traditional.
Special Course Fee: No.

HES 600  Research Design in Health/Exercise Science  Credits: 3  (3-0-0)
Course Description: The research process including design, implementation, proposal synthesis and statistical considerations applied to health and exercise science.
Prerequisite: STAT 100 to 481 - at least 1 course.
Restriction: Must be a: Graduate, Graduate cooperative program, Professional.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 602  Advanced Physiology of Exercise  Credits: 3  (3-0-0)
Course Description: Integrative exercise physiology covering metabolism, cardiovascular physiology, pulmonary physiology, and neuromuscular physiology in humans.
Prerequisite: HES 403.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 603  Advanced Topics in Exercise Physiology  Credits: 3  (3-0-0)
Course Description: Advanced principles of theoretical and applied exercise physiology at molecular, cellular, and systemic levels.
Prerequisite: HES 403.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 608  Physical Activity Intervention Development  Credits: 3  (3-0-0)
Course Description: Examination of the current state of the science related to the relationship between physical activity and health outcomes, the theoretical foundations underpinning successful physical activity interventions, and knowledge of how to develop, implement and evaluate physical activity interventions for adults.
Prerequisite: HES 354 or HES 434 or HES 455.
Restriction: Must be a: Graduate, Professional.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.
HES 610 Exercise Bioenergetics  Credits: 3 (3-0-0)
Course Description: Biology of energy transfer reactions related to human locomotion and exercise performance in both healthy individuals and disease states.
Prerequisite: HES 403.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 619 Advanced Neural Control of Movement  Credits: 3 (3-0-0)
Course Description: Neuroanatomical, neurophysiological, and applied topics on the control of force and human movement.
Prerequisite: BMS 300 and BMS 301 and HES 403.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall (odd years).
Grade Mode: Traditional.
Special Course Fee: No.

HES 620 The Science of Healthspan  Credits: 3 (3-0-0)
Course Description: A multidisciplinary approach to examining important biomedical topics in healthy aging. Covers topics in the field of biomedical research on healthy aging including: lifespan, healthspan, disease, interventions for maintaining health across the lifespan, and the biology, physiology and sociology of aging, from molecular events to clinical and population function.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 630 Integrative Exercise and Nutrition Metabolism  Credits: 3 (3-0-0)
Also Offered As: FSHN 630.
Course Description: Advances in integrative human metabolism under conditions of changing energy flux.
Prerequisite: FSHN 551 and HES 610.
Restriction: Must be a: Graduate, Professional.
Registration Information: Credit not allowed for both FSHN 630 and HES 630.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 650 Health Promotion Programming  Credits: 3 (3-0-0)
Course Description: Development of skills in health promotion program design, implementation and evaluation.
Prerequisite: None.
Restriction: Must be a: Graduate, Graduate cooperative program, Professional.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 684 Supervised College Teaching  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 692 Seminar  Credit: 1 (0-0-1)
Course Description: Consideration of graduate education in health and exercise science.
Prerequisite: None.
Restriction: Must be a: Graduate, Graduate cooperative program, Professional.
Terms Offered: Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.

HES 693 Seminar  Credit: 1 (0-0-1)
Course Description: Current topics and issues in health and exercise science.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Maximum of 2 credits allowed in course.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

HES 698 Research  Credits: Var[1-18] (0-0-0)
Course Description: Non-thesis research in health and exercise science.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 699 Thesis  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 700 Professional Skills in Bioenergetics  Credits: 3 (2-0-1)
Course Description: Grant writing, authorship, peer review process, responsible conduct of science, research ethics, professional conduct, career opportunities.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to doctoral program, or admission to M.S. program and written consent of instructor.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 704A Advanced Topics in Bioenergetics: Movement  Credits: 3 (3-0-0)
Course Description: Advanced topics in physiology, biochemistry, biomechanics, and neural control exploring pathogenesis and treatment of chronic disease.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Graduate standing. Maximum of 6 credits allowed in course.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.
HES 704B  Advanced Topics in Bioenergetics: Physiology  Credits: 3 (3-0-0)
Course Description: Advanced topics in physiology, biochemistry, biomechanics, and neural control exploring pathogenesis and treatment of chronic disease.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Graduate standing. Maximum of 6 credits allowed in course.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

HES 710  Exercise in Disease Prevention  Credits: 3 (3-0-0)
Course Description: Role of exercise/physical activity in the prevention, pathophysiology and treatment of chronic diseases.
Prerequisite: HES 403 and HES 520.
Restriction: Must be a: Graduate, Professional.
Term Offered: Spring (odd years).
Grade Mode: Traditional.
Special Course Fee: No.

HES 784  Supervised College Teaching  Credits: Var[1-3] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 793  Bioenergetics Seminar  Credit: 1 (0-0-1)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: S/U Sat/Unsat Only.
Special Course Fee: No.

HES 795  Independent Study  Credits: Var[1-3] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 796  Group Study  Credits: Var[1-3] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 798  Research  Credits: Var[1-3] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

HES 799  Dissertation  Credits: Var[1-18] (0-0-0)
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.