EXERCISE SCIENCE (EXSC)

Visit the Course Schedule Search website to find out when courses will be offered during the academic year.

Read more about the courses within this subject prefix in the descriptions provided below.

EXSC 520 - Contemporary Perspectives in Exercise Science
Credits: 4
This course is designed to introduce undergraduate students to the field of Exercise Science. Research studies, experiential learning and professional development will be used to explore the different aspects of Exercise Science including fitness, wellness, human performance, research and clinical exercise physiology. Students will discover the many ways exercise is used as a health and fitness intervention. Career options will be studied and evaluated giving students an informed exposure to potential areas of future.
Equivalent(s): KIN 520
Grade Mode: Letter Grading

EXSC 527 - Scientific Foundations of Health and Fitness
Credits: 4
Provides students with practical, scientific, entry-level information relative to physical conditioning, health, and wellness from childhood through adulthood. Students are given theoretical information that will be followed by practical, hands-on experiences offered through laboratories experiences.
Attributes: Biological Science(Discovery); Discovery Lab Course; Writing Intensive Course
Equivalent(s): KIN 527
Mutual Exclusion: No credit for students who have taken NUTR 506.
Grade Mode: Letter Grading
Special Fee: Yes

EXSC 607 - Biology of Aging
Credits: 4
Biological mechanisms of the aging process, with special emphasis on human aging; changes due to chronic disease.
Attributes: Biological Science(Discovery)
Equivalent(s): KIN 607
Grade Mode: Letter Grading

EXSC 620 - Physiology of Exercise
Credits: 4
Acute and chronic effects of exercise. Muscle physiology, respiration, cardiac function, circulation, energy metabolism, and application to training.
Prerequisite(s): BMS 507 with a minimum grade of D- and BMS 508 with a minimum grade of D-.
Equivalent(s): KIN 620
Grade Mode: Letter Grading

EXSC 621 - Exercise Laboratory Techniques
Credits: 4
Laboratory assessment of functional capacity, body composition, anaerobic power, anaerobic threshold, pulmonary function, blood pressure control, muscle strength, and temperature regulation. Field tests are used where appropriate. Extensive out-of-class time is required as each week a detailed lab report is submitted for grading.
Attributes: Writing Intensive Course
Prerequisite(s): EXSC 620 with a minimum grade of D-.
Grade Mode: Letter Grading
Special Fee: Yes

EXSC 649 - Junior Seminar in Exercise Science
Credits: 2
This is a seminar course for juniors enrolled in the Exercise Science Program and is designed to further prepare students for the off campus practicum. Topics to be covered include cover letter and resume preparation, relevant literature discussions, and professional workplace standards.
Prerequisite(s): EXSC 735 with a minimum grade of D- and EXSC 736 with a minimum grade of D-.
Grade Mode: Letter Grading

EXSC 650A - Internship in Exercise Science
Credits: 6
Individualized experiential training in an external (off-campus) exercise science setting (hospital, health & fitness club, business, physical therapy, or medical (physician assistant) offices, research laboratory offering programs of prevention, intervention, and/or rehabilitation. The internship requires 270 contact hours and is a full-time commitment (10 weeks at 27 hours per week) taken the summer following the junior academic year. Activities may include graded exercise testing, exercise prescription, and exercise leadership.
Prerequisite(s): EXSC 649 with a minimum grade of D-.
Grade Mode: Credit/Fail Grading

EXSC 651 - Senior Seminar in Exercise Science
Credits: 2
This course is a seminar for seniors in the Exercise Science program and is designed to disseminate the internship experience (EXSC650A: Internship in Exercise Science). Topics to be covered include but are not limited to: networking, professional development, career planning, and participation in an Internship symposium presentation.
Prerequisite(s): EXSC 649 with a minimum grade of D- or EXSC 650A with a minimum grade of D-.
Grade Mode: Letter Grading

EXSC 693 - Teaching Assistantship
Credits: 2
Students serve as teaching teaching assistants in assigned class activities. Assignments to be made by the class instructor may include teaching assistants' and administrative duties.
Repeat Rule: May be repeated for a maximum of 4 credits.
Grade Mode: Credit/Fail Grading

EXSC 696 - Independent Study
Credits: 2-4
An advanced, individual scholarly project under the direct supervision of a faculty member.
Repeat Rule: May be repeated for a maximum of 8 credits.
Grade Mode: Letter Grading

EXSC 696W - Independent Study
Credits: 2-4
An advanced, writing-intensive, individual scholarly project under the direct supervision of a faculty member. Student and Faculty Adviser will prepare a written proposal that outlines: the questions to be pursued, the methods of investigation, the student's qualifications to conduct the research, the nature of the finished written product (e.g. case study, position paper, extended lab report). This proposal must be approved by major faculty and the department chair prior to the student's registration for EXSC 696W. All EXSC 696W projects must include: Some forms of informal, ungraded writing such as a journal, reading summaries, draft chapters, or invention activities. Regular writing interaction between student and faculty adviser (i.e. at least weekly or biweekly), to include written feedback from the adviser. A finished product that is polished via revision. Faculty sponsors and students should consult the resources and guidelines of the UNH Writing Program.
Attributes: Writing Intensive Course
Repeat Rule: May be repeated for a maximum of 8 credits.
Equivalent(s): KIN 770W
Grade Mode: Letter Grading

EXSC 699H - Honors Project
Credits: 4
Project first involves tutorial sessions to introduce the student to the experimental design, after which a research question is developed. After an appropriate literature review, the student collects and analyzes data, forms conclusions, and prepares a written report on the findings.
Attributes: Honors course
Grade Mode: Letter Grading

EXSC 704 - Electrocardiography
Credits: 4
Designed to provide exposure to basic interpretation and identification of electrocardiograms (ECGs). Includes detailed heart anatomy, coronary circulation, cardiac conduction system, electrocardiogram development, and all aspects pertaining to normal and abnormal ECGs.
Prerequisite(s): BMS 508 with a minimum grade of D-.
Equivalent(s): KIN 704
Grade Mode: Letter Grading

EXSC 705 - Topics in Applied Physiology
Credits: 4
Advanced exercise physiology course dealing with topics both current and relevant to exercise science majors. Includes genetics, environmental influences, immune system, detraining and over-training, epidemiology, ergogenic acids, and the influence of age and gender.
Prerequisite(s): EXSC 620 with a minimum grade of D- and EXSC 621 with a minimum grade of D- and EXSC 736 with a minimum grade of D-.
Equivalent(s): KIN 705
Grade Mode: Letter Grading

EXSC 720 - Science and Practice of Strength Training
Credits: 4
Designed to provide students exposure to the knowledge and practical experience necessary for establishing strength development programs in a variety of populations, including healthy, athletic, and higher risk individuals. Program design, correct lifting techniques, physiological adaptations, and organization and administration of programs are highlighted. Includes fundamentals regarding the selection of programs and equipment, spotting techniques, as well as ways to assess strength and power in humans without expensive equipment.
Prerequisite(s): EXSC 620 with a minimum grade of D- and EXSC 621 with a minimum grade of D-.
Equivalent(s): KIN 720
Grade Mode: Letter Grading

EXSC 722 - Applied Biomechanics
Credits: 4
This course provides students with a background in the fundamental biomechanical principles that describe and govern human movement. Topics of the course include friction, linear and angular motion, tissue material properties, conservation of energy, work and power, fluid mechanics, stability and center of gravity, mechanics of injury, walking and running gait analysis. These topics are taught through the lens of modern biomechanical analyses including dynamometry, electromyography, accelerometry, and optical motion analysis.
Prerequisite(s): EXSC 620 with a minimum grade of D-.
Equivalent(s): KIN 722
Grade Mode: Letter Grading

EXSC 724 - Exercise Metabolism: Acute and Chronic Adaptations
Credits: 4
Overview of the metabolic processes that occur during exercise and metabolic changes that occur as a result of exercise training. Topics include glycogenolysis and glycolysis in muscle, cellular oxidation of pyruvate, lipid metabolism, metabolism of proteins and amino acids, neural and endocrine control of metabolism, and fatigue during muscular exercise.
Prerequisite(s): EXSC 621 with a minimum grade of D- and CHEM 404 with a minimum grade of D-.
Equivalent(s): KIN 724
Grade Mode: Letter Grading

EXSC 735 - Clinical Applications of Exercise Testing
Credits: 2
This course provides students with both the knowledge and practical experience necessary to assess health and physical fitness in apparently healthy populations. Emphasis is placed on developing competency in informed consent, prescreening procedures, and the administration of health and physical fitness-related tests.
Co-requisite: EXSC 736
Prerequisite(s): EXSC 621 with a minimum grade of D-.
Grade Mode: Letter Grading
Special Fee: Yes

EXSC 736 - Guidelines of Fitness and Graded Exercise Testing
Credits: 2
This course introduces students to the physiological foundations of health and physical fitness assessment. Students will explore evidence-based procedures put forth by the American College of Sports Medicine for preparticipation health screening, risk stratification, and the administration of standardized assessment of health and physical fitness related testing.
Co-requisite: EXSC 735
Prerequisite(s): EXSC 621 with a minimum grade of C.
Equivalent(s): KIN 736
Grade Mode: Letter Grading

EXSC 737 - Exercise Prescription and Leadership in Healthy and Special Populations
Credits: 4
Provides exposure to the knowledge and practical experience necessary for establishing exercise and health promotion programs in a variety of populations. Includes fundamentals regarding personal training and program selection, implementation and equipment, legal issues, and budget establishment. Strength training programs and special populations are highlighted.
Prerequisite(s): (EXSC 621 with a minimum grade of C or EXSC 735 with a minimum grade of C) and EXSC 736 with a minimum grade of C.
Equivalent(s): KIN 737
Grade Mode: Letter Grading
Special Fee: Yes

EXSC 794 - Cardiopulmonary Pathologies
Credits: 4
Lecture study of the anatomy, physiology, and pathophysiology of the cardiac, vascular, and pulmonary systems. Particular emphasis on the study of cardiovascular function in diseased and stressed states. Clinical assessment of the cardiopulmonary patient.
Prerequisite(s): EXSC 704 with a minimum grade of D-.
Equivalent(s): KIN 794
Grade Mode: Letter Grading

EXSC 795 - Practicum in Cardiac Rehabilitation
Credits: 2
Provides students with practical and theoretical experience in all aspects involving cardiac rehabilitation programs.
Prerequisite(s): EXSC 704 with a minimum grade of D-.
Equivalent(s): KIN 795
Grade Mode: Letter Grading