

# EXERCISE SCIENCE (EXS)

## Courses and Descriptions

### EXS 115 Introduction to the Science of Exercise 4 Credits

This course is an introduction to the science of exercise, physical activity, and human performance. This course will focus on foundational information about science, the scientific method, an introduction to the structure and function of the human body, and an introduction to human evolution. Development of the field of exercise science, the associated subdisciplines will be discussed, and contemporary challenges and issues in the field will be introduced.

### EXS 115L Introduction to the Science of Exercise Lab 0 Credits

Lab to accompany EXS 115. The lab is a co-requisite and must be taken with the corresponding course.

### EXS 121 Exercise Injury Control and Management 3 Credits

This course is designed to provide the participant with entry level knowledge, competence, and skill in the care and prevention of injuries sustained during physical activity, sport, and exercise. This course includes units dealing with basic anatomy of common injuries, evaluation techniques, preventive measures to reduce the incidences of injuries and a knowledge of basic treatment procedures to be used after injuries occur. Legal and ethical issues will also be discussed.

### EXS 291 Exercise Science Practicum 1 1 Credits

Field experience for sophomore level exercise science students. Students will complete 30-60 hours (roughly 2-4 hours per week) in the field over the course of the semester, applying knowledge, skills, and abilities learned in classroom training. One hour of class time each week will focus on professional development.

**Prerequisite(s):** C or better in EXS 115/L and EXS 121 and MTH 105.

### EXS 320 Exercise Physiology 3 Credits

An entry level exploration of the physiological processes, metabolic requirements, and consequences of exercise in humans. Emphasis is placed on bioenergetics, as well as circulatory, respiratory, and neuromuscular responses to the physical stress of exercise performed for health and disease prevention.

**Prerequisite(s):** BIO 221, BIO 222.

### EXS 321 Exercise Physiology Laboratory 1 Credits

EXS 321 is the laboratory course that accompanies EXS 320. Topics will include entry-level practical skills and competencies related to exercise capacity evaluation, interpretation of exercise data, and application of exercise interventions in a clinical setting. **Prerequisite(s):** BIO 221, 222 **Co-requisite(s):** EXS 320.

### EXS 340 Exercise Testing & Prescription 3 Credits

An advanced, competency based course in the evidence based evaluation and prescription of exercise interventions in healthy and clinical populations. **Prerequisite(s):** EXS 320 **Co-requisite(s):** EXS 341.

### EXS 341 Exercise Testing & Prescription - Lab 1 Credits

An advance, competency based laboratory course in the evidence based evaluation and prescription of exercise interventions in healthy and clinical populations **Prerequisite(s):** EXS 320 **Co-requisite(s):** EXS 340.

### EXS 360 Foundations of Strength and Conditioning 4 Credits

This course examines the advanced methods and techniques associated with the design of strength and conditioning programs to enhance human performance in sport and fitness. This course is designed to develop, enhance, and apply knowledge and skills to prepare the student for the profession of strength and conditioning. **Prerequisite(s):** EXS 320, EXS 321, HSC 302.

**Corequisite(s):** EXS 360L.

### EXS 360L Foundations of Strength and Conditioning Lab 0 Credits

This course examines the advanced methods and techniques associated with the design of strength and conditioning programs to enhance human performance in sport and fitness. **Prerequisite(s):** EXS 320, EXS 321, HSC 302.

**Corequisite(s):** EXS 360.

### EXS 391 Exercise Science Practicum 2 2 Credits

Field experience for junior level exercise science students. Students will complete 60-90 hours in the field over the course of the semester, applying knowledge, skills, and abilities learned in classroom training. One hour of class time each week will focus on professional development.

**Prerequisite(s):** EXS 291.

### EXS 401 Organization and Administration in Exercise Science 3 Credits

This course examines the various issues, policies, and procedures involved with administrative aspects of exercise science in traditional and non-traditional settings. Emphasis is on administrative concepts, facility design, budgeting and equipment purchasing, personnel management, record keeping, and legal liability.

**Prerequisite(s):** EXS 360.

### EXS 405 Special Populations & Considerations 3 Credits

This course is an advanced course in exercise programming for a variety of unique populations. Pathophysiology and considerations relative to diseases of the musculoskeletal, neuromuscular, and immunologic systems will be discussed. Recommended modifications and evidence based techniques that support fitness programming for individuals with specific exercise needs will be explored.

**Prerequisite(s):** EXS 320.

### EXS 490 Independent Study: Research and Creative Expression 1-4 Credits

Immerses the student in exercise science-related research. The student learns to organize material, use relevant medical/scientific literature, make precise measurements, and obtain reproducible data. If possible, the student will publish the results or present them at a scientific meeting.

**Prerequisite(s):** Junior or senior standing; minimum GPA 2.5; EXS majors only; permission of instructor.

### EXS 491 Internship in Exercise Science 1-4 Credits

A supervised work experience in an approved organization where qualified students gain real-world knowledge and utilize their academic training in a professional environment. Placement may be in private, public, non-profit, or governmental organizations. These can include educational or research institutions. The method of evaluation will be formalized prior to the approval of the internship by the sponsoring faculty member and should include keeping a journal of activities, a term paper or project report and an oral or poster presentation.

**Prerequisite(s):** Junior or senior standing; minimum GPA of 2.5; permission of instructor.