

EXERCISE SCIENCE (EXSC)

EXSC 2XX: Exercise Science Placeholder**Credits:** 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 3XX: Exercise Science Placeholder****Credits:** 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 110: Intro to Exercise Science**

In this course students are introduced to the discipline of exercise science. The scope of the topics covered in the course include professionalism, ethics, certification and licensure, employment opportunities and scientific foundations of the various sub-disciplines. Students will complete online search activities to explore these topics. This course sets the foundation for discipline specific coursework. This course is appropriate for students wishing to explore the discipline of exercise science and is required for students in the major.

Credits: 1**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture, On-Line**EXSC 210: Developing the Interprof Team**

In this course students are introduced to the healthcare disciplines that encompass the interprofessional team. The scope of the topics covered in the course include the scope of practice, licensure and certifications, specialty training, and the role in the interprofessional team for each of the healthcare disciplines. Students will hear directly from professionals in each of the disciplines and be involved in case-based learning activities to help understand the optimal team approach to patient care. This course expands on the foundation for discipline specific coursework and allows students to understand the unique roles and responsibilities of each member of the interprofessional team to allow for improved patient care. This course is required for students in the exercise science major.

Credits: 1**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 301: Biomechanics**

This course focuses on the foundational principles in biomechanics that influence physical movement and activity. Student will learn these principles through both mathematical and conceptual concepts. This course is appropriate for students wishing to explore the discipline of exercise science and is required for students in the undergraduate major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 306: Intro to Exercise Physiology**

This course provides the student with applied knowledge relative to the human's physiologic responses to exercise and other environmental stresses. Topics include nutrition, energy metabolism, respiratory, cardiovascular, and neuromuscular physiology, environmental factors, and applied physiology. Basic laboratory procedures and tests in the field of exercise physiology are designed to complement the lecture area.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Prerequisites:** (BIOL 103 and BIOL 103L) or (BIOL 112 and BIOL 112L) [Min Grade: C-]**Schedule Type:** Lecture**EXSC 307: Intro to Kinesiology**

This course introduces students to the discipline of kinesiology and examines the study of physical activity from the perspectives of experience, research, and professional practice. The student will gain knowledge relevant to fundamental biophysical principles of human movement and their relationship to fitness and activity. The students are introduced to the sub-disciplines of Kinesiology including Sport Psychology/Sociology, Motor Behavior/Motor Learning, Biomechanics, and Exercise Physiology among other topics.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 310: Exercise Physiology**

This course focuses on human physiology mechanisms and adaptation that occur during activity, exercise, and sedentary behavior. Student will learn the material through both didactic and practical approaches. This course is appropriate for students wishing to explore the discipline of exercise science and is required for students in the undergraduate major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture, On-Line**EXSC 311: Sports Nutrition**

This course focuses on basic nutritional principles including the specific considerations for various types of healthy and injured athletes. Students will learn the material through both didactic and practical approaches. This course is appropriate for students wishing to explore the discipline of exercise science and is required for students in the undergraduate major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 312: Psych Theory of Hlth & Exerc**

This course examines theories and models of the psychology related to health and exercise. Topics include mind-body integration, psychophysiological effects of exercise, behavior change, motivation, arousal, stress and anxiety, and psychological well-being. Students will also gain experience in scientific inquiry and writing through case studies and a research review paper. The course meets the requirements for a writing intensive (WI).

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Prerequisites:** PSYC 101 and (WRIT 101 or WRIT 101G or WRIT 101S) and (WRIT 201 or WRIT 202) [Min Grade: D]**Schedule Type:** Lecture

EXSC 313: Safety, First Aid & Inj Preven

This course focuses on the principles of first aid and professional life support as prescribed by the National Safety Council. The course is designed to provide the student with the knowledge and skills necessary to develop injury prevention strategies and act as a first responder in an emergency situation until more advanced medical help arrives. The course will consist of lectures and practical hands on activities that will mimic actual emergency situations.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 330: Internship I**

This course focuses on real-world application of knowledge and skills in the workplace under the day-to-day supervision of an experienced exercise science professional. Potential internship settings include personal training studios, strength and conditioning facilities, corporate fitness programs, and cardiac rehabilitation programs. Students will expand their exercise science knowledge through practical (hands-on) approaches, working with real clients, athletes, or patients. They will become familiar with the day-to-day responsibilities, practices, policies, and professional conduct of exercise science professionals. Students will be evaluated based on their applied knowledge as well as their compliance with the rules and norms of their internship site. This course will help students transition to becoming practicing exercise science professionals, as well as set the foundation for further advanced study. This course is part of Jefferson's Creativity Core Curriculum. It is designated as a Creativity Intensive (CI) course and, as such, requires the completion of a Creative Making Workshop (more about this below). In line with Jefferson's creativity initiative, creativity skills and processes will be taught in an integrative manner alongside the disciplinary knowledge of this course for application in the profession through individual and collaborative projects/assignments. This course is required for and restricted to students in the undergraduate Exercise Science major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture, On-Line, Rotation**EXSC 401: Exercise Prescription**

This course focuses on designing comprehensive exercise programs to elicit a wide range of physiological adaptations. The scope of the topics covered in the course include initial goal meetings and assessments, movement patterned-based exercise classification, and exercise progression and regression. Student will learn the material through both didactic (lecture- and discussion-based) and practical (lab-based) approaches. This course sets the foundation for careers in health and fitness as well as further advanced study in therapeutic exercise. This course is required for students in the undergraduate Exercise Science major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture, Lecture/Lab**EXSC 402: Coaching: Strength Training**

This course focuses on strength training instruction and coaching. It provides foundational knowledge of effective client body positions coupled with visual and sensory cues to aid in proper motor activation of specific exercises. It includes exercises that target total body, lower and upper body, core, and isolated movements.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 405: Fitness Assessment**

This course focuses on laboratory and field tests used for assessing baseline and longitudinal physical fitness components used to determine contraindications, client goals, and exercise progression. This course also helps to collectively formulate the interpretation of the laboratory and field testing to provide details that will help educate and guide the client. This course is required for students in the undergraduate Exercise Science major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 410: Exercise for Spec Populations**

This course provides the foundational understanding of the pathophysiological processes seen in various chronic conditions. It will also provide a clinical understanding of the limitations and special needs of clients with chronic conditions, which allows the exercise scientist to appropriately interact and serve the client. This course is required for students in the undergraduate Exercise Science major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 412: Found of Strength & Condition**

This course focuses on the basic principles of strength and conditioning to gain relevant knowledge and prepare the students to take the exam to become a certified strength and conditioning specialist (CSCS) offered through the National Strength and Conditioning Association (NSCA). Student will learn the material through both didactic and practical approaches. This course is appropriate for students wishing to explore the discipline of exercise science and sitting for the CSCS certification exam.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture, Lecture/Lab**EXSC 414: Bus & Leadership in Ex Sci**

This course focuses on the principles of business and leadership in exercise science. Students will learn about the key concepts of leadership, team-building, and communication as they relate to the exercise science field. Students will also explore the basics of business management, including marketing, finance, and entrepreneurship, as well as how to apply these principles to a career in exercise science. This course is required for students in the undergraduate Exercise Science major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture**EXSC 416: Research Methods**

This course introduces students to research methods in Exercise Science. It examines the research process, common study designs, statistical and measurement techniques, and best practices for scholarly dissemination. Students will gain familiarity with finding, reading, and critiquing research articles in terms of their design, methods, and data analysis. This course also serves as a guide to evidence-based practice and is required for students in the undergraduate Exercise Science major.

Credits: 3**College:** Jefferson College of Rehabilitation Sciences**Schedule Type:** Lecture

EXSC 430: Internship II

This course focuses on real-world application of knowledge and skills in the workplace under the day-to-day supervision of an experienced exercise science professional. Potential internship settings include personal training studios, strength and conditioning facilities, corporate fitness programs, and cardiac rehabilitation programs. Students will expand their exercise science knowledge through practical (hands-on) approaches, working with real clients, athletes, or patients. They will become familiar with the day-to-day responsibilities, practices, policies, and professional conduct of exercise science professionals. Students will be evaluated based on their applied knowledge as well as their compliance with the rules and norms of their internship site. This course will help students transition to becoming practicing exercise science professionals, as well as set the foundation for further advanced study. This course is required for and restricted to students in the undergraduate Exercise Science major.

Credits: 6

College: Jefferson College of Rehabilitation Sciences

Prerequisites: EXSC 330 [Min Grade: D]

Schedule Type: Internship 6 Credits