

Exercise and Sports Science (ESS) Courses

ESS2010 Kinesiology

This course provides an introduction to the structure and function of the human body. It is designed to be a first course for exercise and sports science majors and to provide a foundation for more advanced courses. Topics include the neuromusculoskeletal, cardiovascular, pulmonary, gastrointestinal and genitourinary systems. This course emphasizes the study of human posture and movement, specifically focusing upon the musculoskeletal system and dynamics of stability and mobility.

Prerequisite(s): Corequisite: ESS2015.

Offered at Charlotte, Providence

3 Semester Credits

ESS2015 Kinesiology Laboratory

This is a laboratory companion course coordinated with Kinesiology (ESS2010) that introduces students to techniques and equipment used in kinesiology. Students take an inquiry-based, self-guided learning approach to the discovery of the structure and function of the human body with emphasis on the neuromusculoskeletal, cardiovascular, pulmonary, gastrointestinal and genitourinary systems. This lab emphasizes the study of human posture and movement, specifically focusing upon the musculoskeletal system and dynamics of stability and mobility. Additionally, this laboratory course provides students with the opportunity to practice laboratory safety, design experimental procedures, collect data, analyze results and discuss conclusions.

Prerequisite(s): Corequisite: ESS2010.

Offered at Charlotte, Providence

1 Semester Credit

ESS2320 Exercise Physiology

This course examines the human body's physiological response to acute physical activity and its adaptations to chronic exercise training. The course addresses how major body systems, including nervous, endocrine, cardiovascular, respiratory, skeletal and muscular, function in cooperation with energy production to support physical activity and exercise. Also included is the role of exercise in maintaining a healthy body composition and weight, and how physical activity and exercise act to improve physical fitness and overall health and wellness over the long term.

Prerequisite(s): BIO1011, BIO1016, BIO1022, BIO1026.

Offered at Charlotte, Providence

3 Semester Credits

ESS3010 Exercise Assessment and Prescription

This lecture and accompanying laboratory course introduces the concepts of health screening and various types of exercise and fitness assessments needed to implement short- and long-term fitness programs for healthy populations. Many of the concepts and topics in this course help to prepare students to take the American College of Sports Medicine (ACSM)'s Certified Exercise Physiologist (EP-C) Exam, but this is NOT considered to be a preparation class for that exam.

Prerequisite(s): ESS2010, ESS2015, ESS2320, Corequisite: ESS3015.

Offered at Charlotte, Providence

3 Semester Credits

ESS3015 Exercise Assessment and Prescription Laboratory

This is a laboratory companion course coordinated with ESS3010 Exercise Assessment and Prescription. Students conduct and interpret clinical and field assessments in the areas of health screening, body composition, cardiorespiratory fitness, muscular fitness and flexibility. Students in the class serve as subjects for other class members in order to facilitate learning.

Prerequisite(s): ESS2010, ESS2015, ESS2320, Corequisite: ESS3010.

Offered at Charlotte, Providence

1 Semester Credit

ESS4010 Human Performance

This course and its accompanying laboratory component explore the theory and practice of human performance. The course is designed to provide a comprehensive overview of the principles of human performance. Emphasis is placed on the human body's reaction to advanced training methods, exercise technique, program design, and testing and evaluation. Students also explore the principles of supervising a safe training environment according to National Strength & Conditioning Association (NSCA) guidelines. Many of the concepts and topics covered in this course help to prepare students to take the NSCA's Certified Strength & Conditioning Specialist (CSCS) exam, but this is NOT considered to be a preparation class for that exam.

Prerequisite(s): DIET2020, ESS3010, ESS3015, Corequisite: ESS4015.

Offered at Charlotte, Providence

3 Semester Credits

ESS4015 Human Performance Laboratory

This is a laboratory companion course coordinated with ESS4010 Human Performance. Students learn and practice techniques and coaching instruction for resistance training, plyometric, speed mechanics, aerobic and nontraditional exercises for human performance. Students conduct and interpret various methods to analyze sport performance, including timing gates, video analysis, and the use of GPS technology. Students in the class serve as subjects for other class members in order to facilitate learning. Students also explore the principles of supervising a safe training environment according to National Strength & Conditioning Association (NSCA) guidelines. Many of the concepts and topics covered in this course help to prepare students to take the NSCA's Certified Strength & Conditioning Specialist (CSCS) exam, but this is NOT considered to be a preparation class for that exam.

Prerequisite(s): DIET2020, ESS3010, ESS3015, Corequisite: ESS4010.

Offered at Charlotte, Providence

1 Semester Credit

ESS4030 Exercise for Special Populations

This course builds on the skills learned in Exercise Assessment and Prescription and extends those skills to meet the needs of populations across the lifespan and individuals with controlled cardiovascular, pulmonary, metabolic and other disorders. This course provides practical information on exercise for persons with a wide range of special diseases and disabilities. An overview of each unique condition, effects of the condition on the exercise response, effects of exercise training on the condition, and recommendations for exercise testing and programming are presented in a selected topics format.

Prerequisite(s): ESS3010, ESS3015.

Offered at Charlotte, Providence

3 Semester Credits