Revised 01/23

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
HLT 206- EXERCISE SCIENCE (3 CR.)

Course Description

Surveys scientific principles, methodologies, and research as applied to exercise and physical fitness. Emphasizes physiological responses and adaptions to exercise. Addresses basic elements of kinesiology, biomechanics, and motor learning. Presents an introduction to the physical fitness industry. Lecture 3 hours per week. Total 3 hours per week.

General Course Purpose

This course is an introduction to the theoretical and practical concepts of Exercise Science and their application to fitness/sport related careers. Exercise Science is an interdisciplinary field that applies aspects of human anatomy and physiology, physics, psychology, chemistry, nutrition and biology to study physical activity, exercise, sport, and athletic performance. The course is designed to provide students with basic knowledge of the sub-disciplines of Exercise Science and build practical skills in performing fitness assessments, interpreting results, and prescribing fitness programs for individuals.

Course Prerequisites

None.

Course Objectives

Upon completing the course, the student will be able to:

a) Identify the scientific theories behind the body's responses to exercise, including: exercise metabolism, respiration, circulation, neuromuscular, hormonal, and environmental influences
b) Apply behavioral approaches to human behavior change and motivation in exercise and sport
c) Examine the fitness industry, including potential careers and national certifications
d) Apply concepts in anatomy, biomechanics, motor behavior, nutrition, and exercise physiology to design appropriate fitness programs for individuals
e) Develop skills in fitness assessment methods and procedures
f) Identify contraindications to exercise and safer alternatives
g) Interpret current exercise guidelines established for special populations related to age, gender, and individuals with health complications and disabilities

Major Topics to be Included

a) Exercise Physiology
b) Biomechanics
c) Fitness Assessments
d) Exercise and Sport Nutrition
e) Behavior Modification
f) Special Populations
g) Exercise Programming- Flexibility, Muscular Strength and Endurance, Cardiovascular
h) Motor Behavior
i) Athletic Training
j) Sports Medicine
k) Exercise and Sport Psychology
l) Careers and Professional Issues