Common Course Outline

AEXS 140

Principles of Cardiovascular Training and Weight Management

3 Semester Hours

The Community College of Baltimore County

Description

Principles of Cardiovascular Training and Weight Management
Introduces the theories and applied principles of physical training and conditioning; major emphasis of this class will be application of these principles to cardiovascular respiratory endurance and body composition.
Prerequisite: (ENGL 051 or LVE 1)

Overall Course Objectives

Upon successfully completing this course students will be able to:

1. List and explain the components of physical fitness.
2. Interview a client to assess his/her fitness needs and goals.
3. Conduct an evaluation of a client(s) health status.
4. Calculate target heart rate and apply the F.I.T. principle to people of varying ages and fitness levels.
5. Explain the anatomy and physiology of the cardiovascular respiratory system.
6. List the physiological benefits of exercise.
7. Identify, explain, and conduct the lab tests to evaluate cardiovascular respiratory fitness and body composition.
8. Identify, explain, and conduct several field tests to evaluate cardiovascular respiratory fitness and body composition.
9. Correctly take girth, height and weight measurements.
10. Correctly measure systolic and diastolic blood pressures.
11. Identify and explain the principles of cardiovascular fitness training.
12. Identify the components of a training session.
13. Compare and contrast various aerobic programs designed to improve cardiovascular respiratory fitness.
14. Identify the impact of various environmental conditions upon athletic performance.
15. Explain the proper training principles for involvement in road races.
16. Explain the training progression for satisfactory completion of a marathon.
17. Compare and contrast the training programs for the four types of triathlons.
18. Demonstrate the proper technique for assessing body fat with skinfold calibration.
19. Identify ways to measure energy expenditure.
20. Calculate the energy requirements of common aerobic activities.
21. Develop a training program to enhance body composition.

Major Topics

I. The Role of the HFI or Personal Trainer

II. Components of Physical Fitness

III. Evaluation of Health Status

IV. Anatomy & Physiology
   A. Cardiovascular System
   B. Respiratory System

V. Measurement and Evaluation
   A. Statistics

B. Height, weight
C. Girth Measurements
D. HR & BP

VI. Assessment of Cardiovascular Fitness
A. 1 mile walk test
B. Bicycle Ergometer Test
C. Harvard Step Test
D. 12 Minute Aerobics Run
E. Treadmill-Graded Exercise Test

VII. Exercise Prescription to improve Cardiovascular Respiratory Fitness
A. Equipment
B. Aerobic Activities
C. Training Programs
D. Environmental Concerns
E. Overtraining

VIII. Assessing Body Composition
A. Skinfold Calibration
B. Anthropometric Measurements
C. Determining Energy Expenditure

IX. Designing Weight Management Programs

Course Requirements

Grading: Grading procedure will be determined by the individual faculty member but will include:

1. Attendance and Participation
2. Two Exams (both include written and practical applications sections in exams)
3. Term Projects

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.