

KNLS 140

Principles of Cardiorespiratory Training and Weight Management

3 Credits

Community College of Baltimore County

Common Course Outline

Description

KNLS 140 – Principles of Cardiorespiratory Training and Weight Management:

introduces the theories and applied principles of physical training and conditioning. The major emphasis of this class will be application of these principles to cardiorespiratory endurance and body composition.

Pre-requisites: ACLT 052 or ACLT 053 or (ESOL 052 and ESOL 054)

Overall Course Objectives

Upon completion of this course, students will be able to:

1. describe 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;
5. explain the anatomy and physiology of the cardiovascular and respiratory systems;
6. list the physiological benefits of exercise;
7. conduct clinical lab tests to evaluate cardiorespiratory fitness and body composition;
8. conduct field tests to evaluate cardiorespiratory fitness and body composition;
9. collect girth, height and weight measurements;
10. measure systolic and diastolic blood pressures;
11. identify associated risk stratification related to hypertension;
12. explain the principles of cardiovascular fitness training;
13. compare various aerobic programs designed to improve cardiorespiratory fitness;
14. describe the impact of various environmental conditions upon athletic performance;
15. demonstrate the proper technique for assessing body fat with skinfold calibration;
16. identify ways to measure energy expenditure;
17. calculate the energy requirements of common aerobic activities;
18. develop a training program to enhance body composition; and
19. apply the Frequency, Intensity, Time, Type-Volume Progression (FITT-VP) principle to people of varying ages and fitness levels.

Major Topics

- I. The Role of Fitness Professionals

The Common Course Outline (CCO) determines the essential nature of each course.
For more information, see your professor's syllabus.

- II. Components of Physical Fitness
- III. Evaluation of Health Status Information
- IV. Anatomy and Physiology
 - a. Cardiovascular System
 - b. Respiratory System
- V. Measurement and Evaluation
 - a. Height, Weight, BMI
 - b. Girth Measurements
 - c. Heart Rate
 - d. Blood Pressure
 - e. Body Composition
- VI. Assessment of Cardiorespiratory Fitness
 - a. Rockport Mile
 - b. YMCA Step Test
 - c. Cooper 12-minute run
 - d. Treadmill Graded Exercise Test
- VII. Exercise Prescription to Improve Cardiorespiratory Fitness
 - a. Equipment
 - b. Training Protocols
 - c. Environmental Concerns
 - d. Fueling for Cardiorespiratory Events
- VIII. Assessment of Body Composition
 - a. Skinfold Calibration
 - b. Anthropometric Measurements
 - c. Determining Energy Expenditure
- IX. Designing Weight Management Programs

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- Attendance and Active Participation
- Three Exams
- One Written and Oral Presentation of Research Project
- Four Labs with Lab Reports

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

Other Course Information

KNLS 140 is a lecture and lab class which requires some physical activity. Physician approval to participate may be requested based on the results of health history information.

Date Revised: 02/18/2020

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