KNLS/PELF 119
Strength and Conditioning for Athletes
3 Credits

Community College of Baltimore County
Common Course Outline

Description

KNLS/PELF 119 – Strength and Conditioning for Athletes: is a course in which students are introduced to the theory and methods of strength training and conditioning that emphasize the development of maximal strength, power production, anaerobic capacity, muscular endurance, aerobic capacity, and muscular hypertrophy. Classes include practical application activities involving safety protocols, proper lifting technique, Olympic style lifts, plyometrics, footwork drills, and testing procedures using free weights as well as weight-stack machines. In addition, strength training and conditioning programs for specific sports are included. NOTE: This course is cross-listed KLNS 119 and PELF 119, earn credit for one only.

Pre-requisites: MATH 082

Overall Course Objectives

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

1. identify basic musculoskeletal anatomy and physiology;
2. explain the process of muscle growth;
3. describe nutrition for muscle development;
4. apply weight room safety;
5. employ proper lifting and spotting techniques;
6. perform proper Olympic lifting technique;
7. assess athletes using national age group strength, power, and speed standards;
8. conduct testing of strength, power and speed using standardized testing methods;
9. evaluate the results of strength, power, and speed testing;
10. assess proper plyometric training technique;
11. devise a plyometric training program;
12. assess speed training technique;
13. explain specific types of agility training;
14. employ the periodization model of strength and conditioning program design;
15. evaluate training programs for validity;
16. develop sport specific training programs;
17. discuss the psychological aspects of strength, speed, and power training;
18. recognize the signs of overtraining; and
19. create a comprehensive strength training and conditioning program.

Major Topics

I. Musculoskeletal anatomy and physiology

II. Types of muscle training
    a. Strength
    b. Hypertrophy
    c. Power production
    d. Muscular endurance
III. Nutrition for muscle development
IV. Weight room safety
V. Proper spotting techniques
VI. Proper lifting techniques
VII. Industry standard exercise testing and evaluation
VIII. Plyometrics technique/training
IX. Speed technique/training
X. Agility technique/training
XI. Periodization
XII. Fad programs versus valid core programs
XIII. Sport specific training
XIV. Sport and exercise psychology
XV. Overtraining
XVI. Program design
    a. Exercise selection
    b. Exercise order
    c. Manipulation of variables for optimal adaptation

Course Requirements

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

- one written assignment
- one exercise technique demonstration
- one capstone assignment developing a periodized strength and conditioning program
- two written exams
- active participation

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

This course requires strenuous physical activity.

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