

## **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:** introduces students 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.

**Pre-requisites:** ACLT 052 or ESOL 044 and MATH 081

**Co-requisites:** None

### **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 muscular growth;
3. Apply weight room safety;
4. Describe nutrition for muscular development;
5. Employ proper lifting and spotting techniques;
6. Perform proper Olympic lifting technique;
7. Conduct testing of strength, power, and speed using standardized testing protocols;
8. Evaluate results of strength, power, and speed testing;
9. Assess proper plyometric training technique;
10. Devise a plyometric training program;
11. Assess speed training technique;
12. Explain specific types of agility training;
13. Employ the periodization model of strength and conditioning program design;
14. Evaluate training programs for validity;
15. Recognize the signs of overtraining; and
16. Create a comprehensive strength and conditioning training program.

### **Major Topics**

- I. Weight room safety
- II. Musculoskeletal anatomy and physiology
- III. Proper spotting techniques
- IV. Proper lifting techniques

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

- V. Types of muscular training
  - a. Strength
  - b. Hypertrophy
  - c. Power production
  - d. Muscular endurance
- VI. Nutrition for muscular development
- VII. Industry standard exercise testing and evaluation
- VIII. Plyometric technique/training
- IX. Speed and agility technique/training
- X. Periodization
- XI. Sport specific training
- XII. Overtraining
- XIII. Program design
  - a. Exercise selection
  - b. Exercise order
  - c. Manipulation of variables for optimal adaptation
  - d.

### **Course Requirements**

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

- Active participation
- A minimum of two written assignments
- A minimum of two exercise technique demonstrations
- A minimum of two written exams
- One capstone assignment developing a periodized training program

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. This course may require you to obtain physician permission pending the health history questionnaire.

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