

**Common Course Outline**  
**AEXS/PELF 119**  
**Strength and Conditioning for Athletes**  
**3 Credits**

**Community College of Baltimore County**

**Description**

**AEXS/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.

**3 Credits**

**Prerequisites:** ACLT 052 or ESOL 044 and MATH 081

**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 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 procedures will be determined by the individual faculty member but will include the following:

### **Grading/exams**

- Active participation
- Minimum of one written assignment
- Exercise technique demonstration
- One capstone assignment developing a periodized training program
- Minimum of two written exams

Written Assignments: Students are required to utilize appropriate academic resources.

### **Other Course Information**

This course requires strenuous physical activity.