

Lecture Contact Hours: 16-18; Outside-of-Class Hours: 32-36;
 Laboratory Contact Hours: 32-36; Outside-of-Class Hours: 0;
 Total Student Learning Hours: 80-90

CUYAMACA COLLEGE COURSE OUTLINE OF RECORD

Exercise Science 019C – Advanced Physical Fitness

1 hour lecture, 1 unit
 2 hours laboratory, 0.5 units
 Total units: 1.5 units

Catalog Description

Advanced-level instruction in physical fitness and wellness with an emphasis on independent program design, advanced training methods, and long-term application of exercise science principles. Students will demonstrate mastery of cardiovascular endurance, muscular strength and endurance, flexibility, body composition, and skill-related components through performance-based assessments. Nutrition, recovery strategies, and periodization principles will be applied to optimize fitness outcomes and lifelong wellness.

Prerequisite

None

Recommended Preparation

"C" grade or higher or "Pass" in ES 019B or equivalent

Entrance Skills

Without the following skills, competencies and/or knowledge, students entering this course will be highly unlikely to succeed:

- 1) Apply health- and skill-related fitness principles, including progressive overload, adaptation, recovery, and the F.I.T.T. principle, at the intermediate level.
- 2) Develop and follow a personal exercise plan incorporating multiple components of fitness.
- 3) Interpret nutrition labels, evaluate dietary intake, and adjust diet plans to support performance and recovery.
- 4) Demonstrate proper form in a variety of intermediate exercise modalities.
- 5) Document participation and progress using a fitness log and assessment tools.

Course Content

- 1) Components of health-related physical fitness
 - a. Cardiovascular endurance – advanced aerobic and anaerobic conditioning, high-intensity interval training
 - b. Muscular strength– advanced resistance training techniques (e.g., split routines, periodization)
 - c. Muscular endurance – high-volume, functional training applications
 - d. Flexibility – advanced stretching methods and mobility training
 - e. Body composition -advanced monitoring and performance-based strategies
- 2) Components of skill-related fitness
 - a. Agility- advanced drills and sport-performance applications
 - b. Coordination – complex movement sequences, dual-task training
 - c. Power – advanced plyometrics, Olympic-style lifts, and velocity-based training
 - d. Balance– dynamic balance in complex and unstable environments
 - e. Speed– sprint mechanics, resisted/assisted sprinting, and sport-specific speed development
- 3) Principles of Training
 - a. Individuality

- b. Specificity
 - c. Progression
 - d. Overload
 - e. Adaptation
 - f. Recovery
 - g. Reversibility
 - h. Periodization – application of macro-, meso-, and micro-cycles
- 4) Nutrition for performance and wellness
- a. Macronutrient and micronutrient planning for training demands
 - b. Hydration and supplementation strategies
 - c. Nutrient timing for performance and recovery
- 5) Advanced program design
- a. Application of F.I.T.T. and overload at advanced levels
 - b. Periodized training programs for long-term goals
 - c. Self-assessment, tracking, and adjustment

Course Objectives

Students will be able to:

- 1) Apply advanced training principles, including periodization and recovery management, to improve health- and skill-related components of fitness.
- 2) Independently design and implement a comprehensive exercise program integrating cardiovascular, strength, flexibility, and skill-related training.
- 3) Critically analyze nutrition strategies, including macronutrient balance, hydration, and nutrient timing, to enhance performance and long-term wellness.
- 4) Evaluate personal fitness progress using advanced assessments and refine training programs based on performance outcomes.

Method of Evaluation

A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in subject matter determined by multiple measurements for evaluation, one of which must be written essay exams, skills demonstration or, where appropriate, the symbol system.

- 1) Quizzes and exams that measure students' ability to identify, explain, describe and/or provide examples of exercises and nutritional principles for physical fitness.
- 2) Goal setting behavior change assignment that measures students' ability to identify the risks of unhealthy habits (smoking, poor diet, lack of exercise, etc.) and develop personal goals for modifying personal behavior to improve personal health and wellness.
- 3) Daily food log assignment in which students record their daily personal diets and compare their nutritional intake to daily recommended guidelines.
- 4) Objective evaluation of proper form and technique in the execution of various exercise modalities.
- 5) Case study analysis applying principles of exercise prescription and nutrition for various segments of the population.

Special Materials Required of Student

Exercise attire, supportive shoes, towel, water

Minimum Instructional Facilities

Fitness area, gym space, mats, stopwatch, modern audio equipment

Method of Instruction

- 1) Lecture and demonstration
- 2) Individual and group workouts
- 3) Videos

Out-of-Class Assignments

- 1) **Reading:** review course materials, digital references, and other multimedia.
- 2) **Writing:** personal goals, nutritional analysis, fitness log, and more.
- 3) **Other:** N/A.

Texts and References

- 1) Required (representative example): Hoeger, *Lifetime Physical Fitness and Wellness: A Personalized Program*. 16th edition. Cengage, 2021.
- 2) Supplemental: None

Student Learning Outcomes

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

- 1) Demonstrate mastery of advanced physical fitness principles through program design, implementation, and evaluation
- 2) Independently create a periodized training program that incorporates health- and skill-related fitness components.
- 3) Critically evaluate and apply advanced nutrition and recovery strategies to enhance performance and lifelong wellness.
- 4) Assess personal progress using advanced testing and adjust training plans based on results and long-term goals.