

Las Positas College  
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## Course Outline for KIN 22A

### SCIENCE OF SOCCER 1

Effective: Spring 2017

#### I. CATALOG DESCRIPTION:

KIN 22A — SCIENCE OF SOCCER 1 — 3.00 units

An introduction to sociological, physiological, psychological, and performance aspects of soccer. This course will provide an analysis of the physiological demands of the game, as well as, the use of applied psychological techniques to enhance confidence and reduce anxiety. Socio-cultural influences on the development of the game and match performance will also be analyzed.

3.00 Units Lecture

#### Grading Methods:

Letter or P/NP

#### Discipline:

	<b>MIN</b>
<b>Lecture Hours:</b>	54.00
<b>Total Hours:</b>	54.00

#### II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

#### III. PREREQUISITE AND/OR ADVISORY SKILLS:

#### IV. MEASURABLE OBJECTIVES:

**Upon completion of this course, the student should be able to:**

- A. Assess the ratio of ingested carbohydrate to protein in optimizing glycogen restoration in the muscles post exercise.
- B. Diagram and categorize pre-game stretching routines with post-game stretching routines. Assess the following stretching methods and explain when, why and how they should be employed for soccer athletes: Assisted, ballistic, PNF, dynamic and static.
- C. Evaluate the contribution of the physiological energy systems (ATP-PC, lactic acid system, and aerobic system) to soccer, and provide specific examples for training each system.
- D. Design an intervention program to enhance performance that incorporates cognitive-behavioral techniques. This might include; self-efficacy enhancement, commitment strategies, positive orientation techniques, and attention/focus/concentration.
- E. Distinguish the sources of anxiety and illustrate how this influences arousal and performance.
- F. Design an applied goal setting program for individual athletes and team of athletes. Additionally, be able to distinguish outcome, performance and process goals, and identify when and why each might be used.
- G. Evaluate the commercialization of soccer clubs and its impact on their local supporters.
- H. Critically assess the impact of globalization on soccer.
- I. Compose a coaching philosophy with consideration for social and cultural factors.
- J. Interpret distance covered per game according to the individuals' positional role. From this data, design a position-specific conditioning program.
- K. Compare the effectiveness of heart rate monitoring with GPS monitoring in soccer.

#### V. CONTENT:

- A. Exercise physiology and soccer.
  1. Optimal nutrition for soccer
  2. Warm-up and warm-down routines including methods of stretching
  3. Aerobic and anaerobic demands of soccer
- B. Psychology of soccer.
  1. Cognitive-behavioral techniques (e.g., commitment strategies, positive orientation techniques, focus and concentration, confidence, and consistency strategies) for performance enhancement.
  2. How anxiety and arousal influence performance
  3. Motivation and goal setting for individual athletes and teams
- C. Socio-Cultural aspects of soccer.
  1. The commercialization of soccer
  2. Globalization of soccer
  3. Developing a coaching philosophy with consideration for social and cultural factors
- D. Performance Analysis
  1. Match and motion analysis and the physical demands of elite soccer match play
  2. Heart rate and GPS monitoring in soccer

## VI. METHODS OF INSTRUCTION:

- A. **Student Presentations** -
- B. **Research** -
- C. Class Discussion Board

## VII. TYPICAL ASSIGNMENTS:

- A. Research - Investigate glycogen concentration and its depletion through exercise. Apply this information to elite soccer training with consideration to the physiological demands of match play.
- B. Student Presentations - Investigate the overall distance covered per game according to positional role, and from this data produce a position-specific training program.
- C. Class Discussion Board: Illustrate how an understanding of the relative contributions of anaerobic and aerobic processes to total energy output influences the design of training programs for soccer athletes.

## VIII. EVALUATION:

### A. **Methods**

- 1. Exams/Tests
- 2. Research Projects
- 3. Group Projects
- 4. Other:

Discussion Board utilizing Blackboard for student to student interaction

### B. **Frequency**

Exams: 2 per semester (this includes Final exam)

Research Projects: 3-4 per semester

Group Projects: 2 per semester

Discussion Board postings: 7-9 per semester

## IX. TYPICAL TEXTS:

- 1. Jarvie, G. (2014). *Sport, Culture and Society* (2nd ed.). New York, New York: Routledge.
- 2. Van Winckel, J. (2015). *Fitness in Soccer* (1st ed.). Hamburg, Germany: Moveo Ergo Sum / Leuven.
- 3. Anshel, M. (2014). *Sport Psychology From Theory to Practice* (5th ed.). San Francisco, California: Benjamin Cummings.

## X. OTHER MATERIALS REQUIRED OF STUDENTS:

- A. This course requires the student have access to a computer, the internet and Blackboard.