

## SCHOOL OF HEALTH AND SCIENCES

### SYLLABUS

<b>TITLE:</b>	Training Methodology
<b>CODE:</b>	CFI 401
<b>PREREQUISITE:</b>	CFI 204
<b>CREDITS:</b>	3 credits   45 contact hours   1 term

### DESCRIPTION

This course offers an introduction to the methodology of sports training. The course works, promotes, and shares knowledge of appropriate quantitative and qualitative methods of athletic training including healthy people and those who dabble in organized physical activity, in grassroots sport and subsequent sports development and finally, in the high level of competition. The scientific factors that influence the preparation, organization and structuring of training programs in all ages and performance abilities are analyzed. Also, the student is educated for the use of the scientific method applied to the sports field for the development of weekly, monthly, and annual training plans in the population of university athletes, general population, and high-performance athletes. This, in turn, involves the study of facilities, technical equipment, tactical and sports concepts.

### JUSTIFICATION

Recently, the training of elite athletes has been modified and became recognized as a sports science. This new scientific vision leads us to learn about new training methods, thus avoiding overtraining athletes and/or individuals from general or special populations. The exercise science student needs to be trained to provide a better service of prescribing short- and long-term training plans. It is necessary for the student to individualize the methodology of scientific training to be applied to the competitive athlete and to the general population or special population that wishes to exercise to achieve a better state of health and have a better lifestyle. It is essential that the student can intervene in a safe and scientific way with their clients to contribute individually and/or in groups to achieve their goals successfully. The search for new sporting levels is only achievable if we

establish a measurable process in a qualitatively and quantitatively palpable way.

## **COMPETENCES**

The course develops the following competences in students:

- **Critical questioning**
- **Research and exploration**

## **OBJECTIVES**

After completion of the course, students will be able to:

1. Keep measurements and physical evaluations of athletes of different levels
  - A. Initiation
  - B. Development
  - C. High performance
2. Analyze athletes' energy needs
  - A. Initiation
  - B. Development
  - C. High performance
3. Quantify the result of the work plan carried out in a set of physical efforts, and then structure a training plan
  - A. Short-term
  - B. Interim Term
  - C. Long-term
4. Identify and develop an annual training plan according to cycles of sports or recreational participation.
5. Analyze and evaluate training methods and principles.
6. Define aspects related to the organization of a training methodology safely.

## **CONTENTS**

- I. Physical Qualities and Training
  - A. Definition of training and performance
  - B. Physical performance
  - C. Aerobic and anaerobic capabilities
  - D. Quantification of physical work
- II. Initial and Advanced Concepts in the Training of Elite Athletes

- A. Applying science to training
- B. Use of assessment tools and systems
- C. Physiological analysis of training adaptations
- D. Biomechanical analysis of sports
- III. Weekly planning (micro-cycles)
  - A. Preparatory or high-intensity micro-cycles
  - B. Micro-cycles with multiple intensity peaks
  - C. Learning, development, or improvement micro-cycles
  - D. Daily cycles within micro-cycles
  - E. Training sessions within daily cycles
- IV. Annual planning of training macrocycles
  - A. Annual cycles
    - 1. Simple planning
    - 2. Dual planning
    - 3. Triple planning
  - B. Preparatory stage
    - 1. General
    - 2. Specific
    - 3. Pre-competitive and competitive
    - 4. Transition stage
- V. Periodization of Biomotor Skills
  - A. Periodization and strength training
  - B. Periodization and resistance training
  - C. Periodization and speed training
  - D. Periodization and power training (plyometrics)
- VI. Training Aspects
  - A. Tactics and techniques of sports disciplines
  - B. Psychological aspects of training
- VII. Prevention
  - A. Ergogenic aids
- VIII. Facilities and technical equipment
  - A. Use of sports facilities
  - B. Use of cinematographic equipment for training

## METHODOLOGY

The following strategies from the active learning methodology are recommended:

- Lectures
- Role playing
- Group discussions (debating ideas and concepts)
- Special projects
- Field works

## EVALUATION

Partial assignments	30%
Oral presentation	20%
Compositions	20%
Final project or exam	30%
<b>Total</b>	<b>100%</b>

## LEARNING ASSESSMENT

The institutional assessment rubric is applied to the course's core activity.

## BIBLIOGRAPHY

### TEXTBOOK

Bompa, T. O., Buzzichelli, C. A. (2018). *Periodization: Theory and Methodology of Training*. (6<sup>th</sup> ed.). Human Kinetics, Inc

### REFERENCES

American College Sports Medicine. (2020). *ACSM's Guideline for Exercise Testing and Prescription*. (10<sup>th</sup> ed.). Wolters Kluwer.

Bishop, P.A. (2018). *Measurement and Evaluation in Physical Activity Applications: Exercise Science, Physical Education, Coaching, Athletic Training and Health*. (2<sup>nd</sup> ed.). Routledge.

Bushman, B.A. (Ed.). (2017). *American College Sports Medicine's Complete Guide to Fitness and Health*. (2<sup>nd</sup> ed.). Human Kinetics, Inc.

- Haff, G.G., Triplett, N.T. (Eds.). (2015). *Essentials of Strength Training and Conditioning* by NSCA. (4<sup>th</sup> ed.). Human Kinetics, Inc.
- LaPres, J. (2019). *Anatomy and Physiology Laboratory Textbook*. (7<sup>th</sup> ed.). McGraw Hill.
- Morrow Jr., J. R., Mood, D. P., Disch, J. G., & Kang, M. (2016). *Measurement and Evaluation in Human Performance*. (5<sup>th</sup> ed.). Human Kinetics, Inc.
- Radak, Z. (2018). *The Physiology of Physical Training*. (1<sup>st</sup> ed.). Academic Press.
- Schmidt, R. A., Lee, T.D. (2013). *Motor Learning and Performance: From Principles to Application*. (5<sup>th</sup> ed.). Human Kinetics, Inc.
- Turner, A., Comfort, P. (Eds.). (2018). *Advance Strength and Conditioning: An Evidence Based Approach*. Routledge

For more information resources related to the course's topics, access the library's webpage <http://biblioteca.sagrado.edu/>

## **REASONABLE ACCOMMODATION**

For detailed information on the process and required documentation you should visit the corresponding office. To ensure equal conditions, in compliance with the ADA Act (1990) and the Rehabilitation Act (1973), as amended, any student in need of reasonable accommodation or special assistance must complete the process established by the Vice Presidency for Academic Affairs.

## **ACADEMIC INTEGRITY**

This policy applies to all students enrolled at Universidad del Sagrado Corazón to take courses with or without academic credit. A lack of academic integrity is any act or omission that does not demonstrate the honesty, transparency, and responsibility that should characterize all academic activity. Any student who fails to comply with the Honesty, Fraud, and Plagiarism Policy is exposed to the following sanctions: receive a grade of zero in the evaluation and / or repetition of the assignment in the seminar, a grade of F (\*) in the seminar, suspension, or expulsion as established in the Academic Integrity Policy effective in November 2022.