	SUBJECT DESCRIPTION	MODELO PED.012.02
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<i>Course</i>	Master Sports Science		<i>Academic year</i>	2021-2022		
<i>Subject</i>	Cross Training and Functional Training		ECTS	5		
<i>Type of course</i>	Compulsory					
<i>Year</i>	1st	<i>Semester</i>	2nd sem	<i>Student Workload:</i>		
<i>Professor(s)</i>	Carolina Júlia Félix Vila-Chã		<i>Total</i>	135	<i>Contact</i>	30
<i>Area Coordinator</i>	Carolina Júlia Félix Vila-Chã					

Planned SD

7. LEARNING OBJECTIVES

At the end of this course the student should be able to:

1. Discuss and apply the concepts of cross training and functional training;
2. Understand and to properly handle the methods of training commonly associated with cross training;
3. Understand and to properly apply the fundamental principles of functional training in the design of training sessions;
4. Master the techniques of basic exercises associated to cross training and functional training
5. Master the equipment handling techniques related to the lectured training methodologies;
6. Manipulate mechanical and neural control variables, building integrative progressions with progressive increments of motor control demands.

8. PROGRAMME

A. Functional training

- (1) Definition, principles, advantages and disadvantages of functional training
- (2) The fundamental movement patterns
- (3) Equipment commonly used in functional training
- (4) Methodology of functional training - manipulation of methodological, mechanical and neural control variables, integrated functional training (microprogressions)
 - Function, stability vs. instability
 - Function, mobility vs flexibility
 - Function and strength, power and agility training
 - Function and aerobic training vs anaerobic training
- (5) Customer needs assessment and prescription of functional training

B. CROSS TRAINING

- (1) Cross Training
- (2) Fundamentals of the Cross training
- (3) Cross training advantages and disadvantages
- (4) Forms of cross training
- (5) Training methodologies and cross training
 - Foundations of metabolic training - methods and resources of training;
 - Fundamentals of the sports gymnastics training - basic exercises and progressions;
 - Basics of the weightlifting training- methods and training facilities; basic exercises; methodological progressions.
- (6) Prescription and periodization of training - training principles and periodization models

3. COHERENCE BETWEEN PROGRAMME AND OBJECTIVES

The course contents are consistent with the objectives of the course, once that:

- The points A.1., A.2, B.1. and B.2. of the syllabus aim to achieve the objective 1;
- The point B.2. of the syllabus aims to achieve the objective 3;
The point B.1. of the syllabus aims to achieve the objective 2;
- The points A.3., A.4 and B.4. of the syllabus aim to achieve the objective 4;
The points A.2. A.4 and B.4. of the syllabus aim to achieve the objective 5;
- The point A.4. of the syllabus aims to achieve the objective 6;
The points A.5. and A.5. of the syllabus aim to achieve the objective 7.

4. BIBLIOGRAPHY

ACSM (2021): ACSM's Resources for the personal Trainer. 6th edition. Wolters Kluwe | Lippincott Williams & Wilkins.

Baechle, T; Earle, R (2015): Essential of strength training and conditioning. National Strength and Conditioning Association. 4th edition. Human kinetics.

Boyle, M. (2011): Advances in Functional Training: Training Techniques for Coaches, Personal Trainers and Athletes. Lotus Publishing.

Collins, A. (2012): The complete guide to functional training. Bloomsbury Publishing Plc.

Cook, G. (2003): Athletic Body in Balance. Optimal movement skills and conditioning for performance. Human Kinetics.

Glassman, G. (2020): CrossFit Level 1 Training Guide. CrossFit, Inc.

National Academy of Sports Medicine (2020): Essentials of Corrective Exercise Training. 2nd Edition. Jones & Bartlett Learning

National Strength and Conditioning Association (2011): Developing Agility and Quickness (Sport Performance). Human Kinetics

National Strength and Conditioning Association (2016): Exercise Technique Manual for Resistance Training (Book & DVD).3th ed. Human Kinetics.

NSCA e Dawes, J. (2011): Developing Agility and Quickness (Sport Performance Series). Human Kinetics.

NSCA e Willardson, J (2011): Developing the core (Sport Performance Series). Human Kinetics

Santana, J. (2016): Functional Training. Exercises and programming for training and performance. Human Kinetics.

5. TEACHING METHODOLOGIES (INCLUDING EVALUATION)

Teaching methodologies

The syllabus taught will be operated through:

- (1) Training of specific methodologies, motor skills and movement patterns related to the different types of training aforementioned;
- (2) Oral exposition and through interactive multimedia programs on specific course contents;
- (3) Research work, analysis and interpretation of text / scientific articles under supervision.

Methodologies, evaluation components and respective credits:

The student evaluation will follow the internal regulation for continuous evaluation of the student.


The evaluation will focus on the student performance during the following modules:

- A) Continuous evaluation - (Regular, Student Worker) (Final):
 - a. Intermediate Written Test - 25%;
 - b. Pratical test – 40%
 - c. Practical Work - 35%;
- B) Evaluation by exam - (Regular, Student Worker) (Exam):
 - a. Final Written Exam - 35%;
 - b. Practical Work - 65% (The mark of this component is that obtained in the practical work during the continuous evaluation).

6. COHERENCE BETWEEN TEACHING METHODOLOGIES AND OBJECTIVES

The referred methodologies were selected aiming to maximize the acquisition of the selected contents, allowing therefore reaching the purposed learning outcomes. Therefore:

1. Practical sessions are used to develop the motor skills related to main four syllabus blocks allowing therefore to reach the objectives described in 1, 2, 3 e 4;
2. The content exposition, either oral or through multimedia programs, are used to present the fundamental contents related to all learning outcomes;

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3. The research work, analysis and interpretation of text / scientific articles are used to consolidate the learning outcomes number 5, 6, 7.

ESECD, 28th of june of 2021