Information about the subject

Degree: Bachelor of Sciences of Physical Activity and Sport

Faculty: Faculty of Physical Activity and Sport Sciences

Code: 280206 **Name:** Physiology of Exercise

Credits: 6,00 **ECTS Year:** 2 **Semester:** 2

Module: 2) Knowledge of Basic Discipline module.

Subject Matter: Biological and Mechanics Basis of Human Movement **Type:** Compulsory

Field of knowledge: Health and functional assessment

Department: Physical Preparation and Conditioning

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

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Module organization

2) Knowledge of Basic Discipline module.

Subject Matter	ECTS	Subject	ECTS	Year/semester
Science and Human Movement.	6,00	Learning and Motor Development	6,00	1/2
Manifestations of the human motor	12,00	Body Language	6,00	1/2
		Perceptual-Motor Skills	6,00	2/1
Applied basis o sports	36,00	Adapted Sport and Physical Activity with Specific Educational Needs	6,00	3/1
		Adversary Sports	6,00	3/2
		Collective Sports	6,00	2/2
		Individual Sports	6,00	2/1
		Local Games and Sports	6,00	2/2
		Sport in the Natural Environment	6,00	3/2
Biological and Mechanics Basis of Human Movement	18,00	Biomechanics of Physical Activity	6,00	3/2
		Kinesiology	6,00	2/1
		Physiology of Exercise	6,00	2/2

Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

R1 Acquiring basic theory knowledge.

R2 Searching information to personalize and increase theoretical contents of biomechanics.

R3 Learning to team-work and make decisions.

R4 Learning to carry out self-assessment about theory and practice work.

R5 Learning to take decisions on various possibilities given.

R6 Apply the lessons learned.

Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

GENERAL		Weighting			
		1	2	3	4
CG1	Understanding scientific literature in English and other important languages widely used in the scientific field achieving a good management of information		x		
CG2	Ability to apply information technology and communication (ICT)	x			
CG3	Develop skills to solve problems through decision-making	x			
CG4	Transmit any information regarding the contents of body expression both in writing and orally			x	
CG5	Plan and organize any activity efficiently			x	
CG6	Develop interpersonal skills and teamwork, both international and domestic contexts and in interdisciplinary teams and non-interdisciplinary		x		
CG7	Be capable of critical reasoning using the knowledge gained				x
CG8	Being able to recognise multicultural and diverse environment	x			
CG9	Knowing and complying with the professional ethics necessary to work		x		
CG10	Develop skills to adapt to new situations and autonomous learning	x			
CG11	Develop skills for creativity, initiative and entrepreneurship	x			
CG13	Being able to apply theoretical knowledge in practice				x
CG14	Use Internet well as communication and as a source of information	x			

CG15	Conveying the acquired knowledge both to specialists in the subject and to people who are not experts on it			x	
CG16	Understanding other specialists proposals and communicating with them both in the student's own language and in a foreign language	x			
CG18	Being able to assess themselves	x			
CG19	Developing habits aiming at obtaining excellence and quality at work		x		

SPECIFIC		Weighting			
		1	2	3	4
CE1	Knowing and understanding the contents within the scope of Physical Activity and Sports Science		x		
CE3	Knowing and understanding the physiological and biomechanical factors determining physical activity and sports				x
CE5	Know and understand the effects of the practice of body language and its manifestations in the personal development and health improvement			x	
CE8	Knowing and understanding the structure and function of different forms human motor function		x		
CE14	Assessing physical condition and prescribing physical exercises with a view to improve health		x		
CE19	Learn to apply the techniques of information and communication within the body expression			x	

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R4, R5, R6	70,00%	Written/oral and/or practical tests.
R3, R4, R5, R6	20,00%	Completion of a project.
R2, R4, R5, R6	10,00%	Attendance at interviews, seminars and practical activities.

Observations

To overcome the subject in the 1st enrolment will be essential:

·Overcome with at least 5 pts the theoretical- practical exam. In addition, in order to perform the oral test, the test must have been previously approved Overcome 5 pts between the various sections of the evaluation (except attendance)

·In the rest of competences, the student will be evaluated again in the extraordinary enrolment (repetition of the theoretical and practical exam and presentation of the team work).

·Students whose do not reach the minimum requirements in any assessment section but they reach the mean of 5 pts, they will be pointed with 4.5 pts. In this case, the skills overcome will be stored in the following calls, until the 5th call (not included).

·Only collect the work on the date set by the teacher.

·Those students who do not take the oral and test type tests, will be graded with a "not presented" (NP), regardless of having the other competencies approved.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

M1 Exhibition of contents by the teacher.

M2 Dynamics and group activities.

M3 Resolution of problems and cases.

M5 Discussion in small groups.

M6 Practical lesson.

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
PRACTICAL /SEMINAR CLASS: Dynamics and group activities. Resolution of problems and cases. Laboratory practices. Data search in a computer room, library... Meaningful construction of knowledge through the interaction and activity of the student M2, M3, M5, M6	R1, R2, R3, R4, R5, R6	26,50	1,06
TUTORY: Learning supervision, evolution. Discussion in small groups. Resolution of problems and cases. Presentation of results before the teacher. Presentation of schemes and indexes of the proposed works. M5	R1, R2, R5	2,00	0,08
EVALUATION: Set of oral and / or written tests used in the evaluation of the student, including the oral presentation of the final project. M2, M3	R4, R6	4,00	0,16
THEORETICAL CLASS: Presentation of content by the teacher. Competency analysis. Demonstration of skills, abilities and knowledge in the classroom. M1, M2, M5	R1, R2	27,50	1,10
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
GROUP WORK: Problem solving. Preparation of exercises, works, memories, to exhibit or deliver in classes and / or in tutoring. M2, M3	R1, R3, R4, R5	37,50	1,50
AUTONOMOUS WORK: Study, Individual preparation of exercises, works, memories, to exhibit or deliver in classes and / or in tutoring. Platform activities or other virtual spaces. M3	R1, R3, R4, R5, R6	52,50	2,10
TOTAL		**90,00**	**3,60**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
BLOCK I	·Muscle contraction. ·Energy metabolism. Metabolism during the exercise. ·Responses and adaptations of the cardiovascular system to exercise. ·Answers and respiratory adaptations to exercise. Behavior of gases during exercise. ·Answers and hematological adaptations to exercise. ·Renal function: adaptation to exercise. ·Exercise and digestive responses. ·Answers and endocrine adaptations to exercise.
BLOCK II	·Rating ergometer, general principles. ·Oxygen consumption: concept, applications and physiological basis. ·Transition aerobic - anaerobic. Concept and Measurement of anaerobic threshold.
BLOCK III	·Physiological aspects in special populations: women in sport, in childhood, adolescence and the elderly. ·Physiological adaptations in different physical properties: strength, endurance, speed and flexibility. ·Adaptations of the organism to great heights and depths.
BLOCK IV	·Pathophysiological basis of fatigue. ·Treatment of the condition of fatigue: ergogenic aids.
BLOCK V	·Practice of the subject.

Temporary organization of learning:

Block of content	Number of sessions	Hours
BLOCK I	10,00	20,00
BLOCK II	8,00	16,00
BLOCK III	4,00	8,00
BLOCK IV	3,00	6,00
BLOCK V	5,00	10,00

References

BASIC BIBLIOGRAPHY:

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Wilmore, J.H. y Costill, D.L. (2007). Fisiología del esfuerzo y del deporte. Paidotribo.

RESEARCH ARTICLE JOURNAL:

·Medicine and Science in Sports and Exercise
·International Journal of Sport Nutrition and Exercise Metabolism
·Exercise and Sport Sciences Reviews
·Journal of Sport & Exercise Psychology
·Journal of Applied Physiology
·European Journal of Applied Physiology