Information about the subject

Degree: Bachelor of Arts Degree in Primary School Education

Faculty: Faculty of Teacher Training and Education Sciences

Code: 1162031 **Name:** Biological and physiological bases of movement and physical abilities

Credits: 6,00 **ECTS Year:** 0, 3, 4 **Semester:** 2

Module: Qualifying Mention in Physical Education

Subject Matter: Biological and physiological bases of movement **Type:** Elective

Field of knowledge: Social and legal sciences

Department: Teaching and Learning of Physical Education, Plastic Arts, and Music

Type of learning: Classroom-based learning / Online

Languages in which it is taught: Spanish

Lecturer/-s:

CAOGD	Miguelina Cabral Dominguez **(Responsible Lecturer)**	miguelina.cabral@ucv.es
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OEFEXTAL	Josep Esteve Furio Vaya **(Responsible Lecturer)**	josepesteve.furio@ucv.es
OEFEXTG	Jose Manuel Boquera Navarrete **(Responsible Lecturer)**	jose.boquera@ucv.es

Module organization

Qualifying Mention in Physical Education

Subject Matter	ECTS	Subject	ECTS	Year/semester
Specialization in Physical Education	6,00	Development and assessment of capabilities, motor skills and body expression	6,00	3, 4/1
Biological and physiological bases of movement	6,00	Biological and physiological bases of movement and physical abilities	6,00	0, 3, 4/2
The Didactics of Physical Education	6,00	Didactics and planning of physical education I	6,00	0, 4/2
Games and sports	6,00	Individual and group sports and games	6,00	0, 4/2
Physical activity and health	6,00	Treatment of physical activity, health and special educational needs	6,00	0, 4/2

Recommended knowledge

None

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 The students demonstrate knowledge of the structure and functioning of the human body through a written test and/or solving practical cases and/or oral presentation.

R2 The students design programming units, either individually or in groups, taking into account the quantitative component of movement, expressed through basic physical abilities

R3 The students present a theoretical-practical case that demonstrates mastery of the theoretical-practical contents of the subject, as well as group management and dynamics. Anatomical elements and physiological processes of the human body involved in the capacity for movement. Mechanisms of adaptation

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	Understand the curricular areas of Primary Education, the interdisciplinary relationship between them, the evaluation criteria, and the body of didactic knowledge around the respective teaching and learning procedures.			x	
CG2	Design, plan, and evaluate teaching and learning processes, both individually and in collaboration with other teachers and professionals from the school.			x	
CG5	Promote a positive coexistence inside and outside of the classroom, resolve discipline issues, and contribute to peaceful resolution of conflicts. Encourage and value effort, perseverance, and personal discipline in students.				x
CG10	Reflect on classroom practices to innovate and improve teaching work. Acquire habits and skills for autonomous and coopoerative learning and promote it among students.				x
CG11	Know and apply information and communication technologies in the classrooms. Selectively discern audiovisual information that contributes to learning, civic education, and cultural enrichment.			x	

SPECIFIC		Weighting			
		1	2	3	4
EEF1	Understand and value the principles that contribute to cultural, personal and social education through Physical Education.			x	
EEF2	Master the school curriculum of Physical Education.			x	
EEF3	Acquire and know how to apply resources to promote lifelong participation in sporting activities in and out of school.				x

EEF4	Develop and assess curriculum content through appropriate teaching resources and promote the corresponding competences in students.			x
EEF15	To know the physical capacities and the factors that determine their ontogenetic evolution and to know how to apply their specific technical foundations.			x
EEF16	To know the biological and physiological foundations of the human body, as well as the processes of adaptation to physical exercise, and their relationship with health, hygiene and nutrition.			x

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R3	10,00%	Solution of practical cases: Execution tests, real and/or simulated tasks.
R1, R2, R3	20,00%	Oral presentation of group and individual works: Self-assessment systems (oral, written, individual, in groups). Oral tests (individual, in groups, presentation of topics or works).
R1, R2, R3	10,00%	Monitoring of student work in non-face-to-face/distance sessions: Observation techniques, rubrics, checklists. Portfolios.
R1, R2, R3	20,00%	Active participation in theoretical-practical sessions, seminars, and tutorials: Attitude scale (to gather opinions, values, social and managerial skills, interaction behaviors).
R1, R3	40,00%	Written tests: Objective tests with short and extended responses.

Observations

The evaluation includes several distinct instruments. The final grade will be the weighted averageof the results obtained in each one of them, provided that all of them have been passed with a minimum grade of 5.all of them with a minimum grade of 5.
The objective written tests will be mixed and will contain open and/or multiple-choice questions.All assignments will have a specific date for completion and delivery.All oral and written production by the students will be evaluated at a formal level according to the document "Level C1 (Framework C1)".the document "Level C1 (Common European Framework of Reference for Languages) in the Degrees ofTeacher in Early Childhood and Primary Education".The defenses of the practical cases can be recorded in video format.
Single evaluation: Exceptionally, students who are unable to undergo the continuous evaluation system because they do not attend at least 70% of the classes may opt for this evaluation system. In this case, they will be evaluated as follows:
60%. Solution of practical cases: Execution activities of real and/or simulated tasks and oral presentation of group and individual work (oral, written, individual, group). Presentations (individual, group, presentation of topics-works). Associated learning results R1, R2, and R3.40%. Theoretical exam: short-answer multiple options, written exam. Associated learning results R1, R2, and R3.Use

of Artificial Intelligence:
The use of AI is allowed for:
Study support (generate alternative explanations, concept maps or self-assessment exercises)Receive feedback on the clarity or coherence of one's own text. The use of AI is not allowed for:
The completion of evaluable assignments, unless it is required in a particular activity and the professor so indicates. In case of using AI in any of the activities under the allowed conditions, it must be mentioned in which part of the activity it has been used, which AI tool has been used and for what purpose. In case of doubts about the authorship of the submitted documents and their use of AI, the professor may ask questions or issues to verify the authorship.

CRITERIA FOR THE AWARDING OF HONOURS:
In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with 9 Distinction) may be awarded. Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

Learning activities

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

M1	Participatory Master Class
M2	Case Study
M4	Learning Contracts
M5	Seminar Work
M6	Problem-based Learning

M7 Cooperative/Collaborative Work

M9 Group and Individual Tutoring

M10 Individual Tutoring

IN-CLASS LEARNING

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theoretical Class M1	R2, R3	20,00	0,80
Practical Class M6, M7, M9		35,00	1,40
Tutoring M10	R2, R3	2,00	0,08
Evaluation M2	R1, R2, R3	3,00	0,12
TOTAL		**60,00**	**2,40**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Group work M2, M7, M9	R1, R2, R3	60,00	2,40
Individual work M2, M10	R2, R3	30,00	1,20
TOTAL		**90,00**	**3,60**

ON-LINE LEARNING

SYNCHRONOUS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Individual tutoring (e-learning mode)		60,00	2,40
TOTAL		**60,00**	**2,40**

ASYNCHRONOUS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Individual work		90,00	3,60
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: BIOLOGICAL AND PHYSIOLOGICAL BASIS OF HUMAN MOVEMENT	Topic 1. Anatomy and Physiology: Basic Concepts.1.1 Concepts of Anatomy and Physiology.1.2 Composition of living matter1.3 Cellular organization1.4 Pluricellular organization1.5 MetabolismAnatomy and physiology of the locomotor system and its implication with physicalinvolvement with physical activity.2.1 Bone system2.2 Joint system2.3 Muscular system Topic 3. Anatomy and physiology of the cardio- respiratory system and its relation with physical activity.respiratory system and its relationship with physical activity. 3.1 Cardiovascular system. Anatomy and physiology3.2 Respiratory system. Anatomy and physiology

BLOCK II: PHYSICAL CAPABILITIES	Topic 4. Strength 4.1.Concept and Definition4.2.Types of Strength4.3.Classes of contraction and muscular function 4.4.4.4.Evolution of strength in childhood and school stage 4.5.4.4.Evolution of strength in childhood and school4.5. Treatment and considerations of strength work in the school contextin the school context4.5.1. Correct and safe performance of the exercises4.5.1. Correct and safe performance of exercises4.5.2. Adaptations Topic 5. Endurance6.1. Concept and Definition6.2 Types of endurance6.3 Sources of energy6.4 Factors that determine the capacity forperformance6.4.1 O2 debt6.4.2 O2 consumption and uptake capacity 6.4.3 Energy sourcesabsorption capacity6.4.3 Lactic acid support and clearance6.5. Evolution of endurance in childhood and schooling 6.6.6.5 Evolution of endurance in childhood and school6.6 Methods of intervention and assessment in the school settingschool settingTopic 7. Speed7.1 Concept and Definition7.2 Factors on which it depends7.3 Types of speed7.4 Evolution of speed in childhood and the school stageschool stage7.5 Methods of intervention and assessment in the school settingschool frameworkTopic 8. Flexibility8.1 Concept and definition8.2 Types of flexibility8.3 Muscle and joint component8.4 Methods of intervention and evaluation in theschool setting

Temporary organization of learning:

Block of content	Number of sessions	Hours
BLOCK I: BIOLOGICAL AND PHYSIOLOGICAL BASIS OF HUMAN MOVEMENT	10,00	20,00
BLOCK II: PHYSICAL CAPABILITIES	20,00	40,00

References

- Brown, Lee E. (2007). Entrenamiento de velocidad, agilidad y rapidez. Barcelona: Ed. Paidotribo.- Calais-Germain, B. (2002). Anatomía para el movimiento. Girona: Curvet & Marqués.- Castañer, M. y Camerino, O. (1991). La Educación Física en la Enseñanza Primaria. Barcelona:INDE.- Devís, J. y Peiró, C. (1992). Actividad física, deporte y salud. Barcelona: INDE- Devís, J. (2000). Nuevas perspectivas curriculares en educación física: la salud y los juegosmodificados. Barcelona: INDE- García J.M., Navarro, M. & Ruiz, J.A. (1996). Bases teóricas del entrenamiento deportivo. Madrid:Gymnos.- García Manso, J.M. (2002). La Fuerza. Madrid: Ed. Gymnos.- García, J.M., Navarro, M. & Ruiz, J.A. (1996). Pruebas para la valoración de la capacidad motrizen el deporte. Madrid: Gymnos.- García-Verdugo, M. (2007). Entrenamiento de la resistencia. Barcelona: Ed. Paidotribo- Kahle,W; Leonhart, H & Platzer, W. (1993).Atlas de Anatomía Tomo I: Aparato locomotor.Barcelona: Omega.- Kamine. P, (2003). Anatomía general.(2a ed.). Madrid: Médica Panamericana.- Neiger, H. (2007). Estiramientos analíticos manuales. Madrid: Ed. Panamericana.- Latarjet, M & Ruiz-Liard, A. (2005). Anatomía humana. (4a ed.). Madrid: Médica Panamericana.- Lloret, M. (2003). Anatomía aplicada a la actividad física deportiva. Madrid: MédicaPanamericana.- Palastanga, N; Field, D.&Soanes, R. (2000). Anatomía y movimiento humano. (3ed.)- Barcelona: Paidotribo.- Rouvière, H&Delmas, A. (2001).Anatomía humana.Tomo I, II y III.(10a ed.). Barcelona: Masson.- Sobotta, J. (2002).Atlas de Anatomía humana.Tomo I: cabeza,cuello y miembro superior. (24aed.)Madrid: Médica Panamericana.- Sobotta, J. (2002).Atlas de Anatomía humana. Tomo II: tronco, vísceras y miembro inferior.- (24a ed.). Madrid: Médica Panamericana.- Tercedor P. (2001) Actividad física, condición física y salud. Sevilla: Wanceulen.- Weineck J. (2006) Entrenamiento óptimo. Barcelona: Editorial Hispano Europea SA.- Weineck, J. (2004) Salud, ejercicio y deporte. Barcelona. Paidotribo