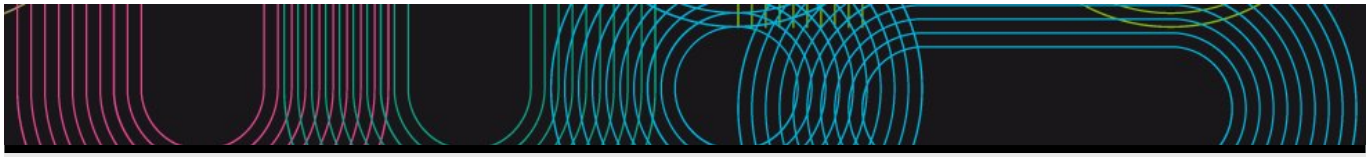

IDENTIFYING DATA				
Biomechanics of sports techniques				
Subject	Biomechanics of sports techniques			
Code	P02G050V01903			
Study programme	Grado en Ciencias de la Actividad Física y del Deporte			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	3rd	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Silva Alonso, Telmo Cabaleiro Álvarez, David			
Lecturers	Cabaleiro Álvarez, David Mato Corzón, Marta María			
E-mail	telmosilva@uvigo.es dacabaleiro@uvigo.es			
Web				
General description	Knowledge and application of the laws of the mechanics to the analysis of sports techniques with the intention of improving the performance and reducing the incidence of injuries.			

Training and Learning Results	
Code	
B2	Knowledge and comprehension of the scientific literature of the area of the physical activity and the sport.
B3	Knowledge and compression of the physiological factors and biomechanics that determine the practice of the physical activity and the sport
B7	Knowledge and comprehension of the foundations, structures and functions of the skills and bosses of the motricity humanizes.
B8	Knowledge and comprehension of the structure function and development of the different manifestations of the motricity humanizes.
B12	Application of the technologies of the information and communication (TIC) to the area of the Sciences of the Physical Activity and of the Sport.
B13	Habits of excellence and quality in the professional exercise.
B14	Managing of the scientific basic information applied to the physical activity and to the sport in his different manifestations.
B18	Aptitude to apply the physiological beginning, biomechanics, behavioral and social, to the different fields of the physical activity and the sport.
B20	Aptitude to identify the risks that stem for the health of the practice of physical inadequate activities.
B25	Skill of leadership, capacity of interpersonal relation and teamwork.
B26	Adjustment to new situations, the resolution of problems and the autonomous learning.
C3	Aptitude to apply the physiological and biomechanical skills, comportamentales and social, in the offer of tasks in the processes of education - learning across the physical activity and sport.
C8	Aptitude to apply the physiological biomechanical, comportamental and social principles, during the process of the sports training
C16	Aptitude to apply the physiological, biomechanical, comportamental and social principles to the field of the physical activity and the health
C23	Aptitude to identify and value the risks that could stem from the use of the equipments and sports facilities
C28	Aptitude to apply the physiological biomechanicl, comportamental and social principles, in the physical - sports recreative activities

Expected results from this subject	
Expected results from this subject	Training and Learning Results

The student will be able to know the principles and applications of the *biomecánica to the sportive practice	B2 B3 B7 B8 B12 B13 B14 B18 B20 B25 B26	C3 C8 C16 C23 C28
The student will be able to comprise like the cinematic, the dynamics and the fluid mechanics are the foundation of the *biomecánica	B2 B3 B7 B8 B12 B13 B14 B18 B20 B25 B26	C3 C8 C16 C23 C28
The student will be able to know and use distinct types of analysis *biomecánicos of the sportive technician	B2 B3 B7 B8 B12 B13 B14 B18 B20 B25 B26	C3 C8 C16 C23 C28
The student will be able to know and use tools of analysis *biomecánico of simulation and prediction	B2 B3 B7 B8 B12 B13 B14 B18 B20 B25 B26	C3 C8 C16 C23 C28

Contents	
Topic	
Principles of classical mechanics applied to sports biomechanics	Objective Applications
Instrumental techniques to the biomechanical analysis of sports technique	Quantitative analysis Qualitative Analysis Analysis according to criteria of performance Evaluation of sports technique
Tools of simulation and prediction of the realisation of a sportive technician	Objective Characteristic Applications
Equilibrium of a musculoskeletal structure and human body	Foundations Applications
Elasticity of the tissues of a musculoskeletal structure	Foundations Application
Kinematics applied to sports technique	Foundations Applications
Dynamics applied to sports technique	Foundations Applications
Fluid mechanics applied to sports technique	Foundations Applications

Planning			
	Class hours	Hours outside the classroom	Total hours
Seminars	30	30	60
Lecturing	22.5	22.5	45
Portfolio / dossier	0	44	44
Problem and/or exercise solving	1	0	1
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	
	Description
Seminars	- Application of the biomechanical principles to solve problems and practical cases. - Determination of objectives, obtaining, treatment, presentation and analysis of data in theoretical and real situations.
Lecturing	Presentation by the teacher of the fundamental theoretical contents of the subject.

Personalized assistance	
Methodologies	**Description**
Lecturing	The student will have at her/his disposal tutoring sessions to sort out specific doubts on the theoretical contents studied in class. Tutoring sessions may take place physically in the teacher's office or online (via the institutional email of the teaching staff involved in the subject and available on the faculty website, videoconferences or by telematics applications integrated in the remote campus of the University of Vigo) by appointment request.
Seminars	The student will have at her/his disposal tutoring sessions to sort out specific doubts regarding the problems and practical cases analyzed in the seminars. Tutoring sessions may take place physically in the teacher's office or online (via the institutional email of the teaching staff involved in the subject and available on the faculty website, videoconferences or by telematics applications integrated in the remote campus of the University of Vigo) by appointment request.
Tests	**Description**
Portfolio / dossier	The student will have at her/his disposal tutoring sessions to sort out specific doubts regarding the execution and submission of the required reports and assignments. Tutoring sessions may take place physically in the teacher's office or online (via the institutional email of the teaching staff involved in the subject and available on the faculty website, videoconferences or by telematics applications integrated in the remote campus of the University of Vigo) by appointment request.

Assessment				
	Description	Qualification	Training and Learning Results	
Seminars	Continuous evaluation, submission (in due time and form) of proposed exercises and reports on the analyses raised during the seminars.	35	B2 B3 B7 B8 B12 B13 B14 B18 B20 B25 B26	C3 C8 C16 C23 C28
Portfolio / dossier	Continuous evaluation, submission of required reports and assignments in due time and form.	30	B2 B3 B7 B8 B12 B13 B14 B18 B20 B25 B26	C3 C8 C16 C23 C28

Problem and/or exercise solving	Short answer or multiple choice tests on the contents of the subject.	35	B2 B3 B7 B8 B18 B20 B25 B26	C3 C8 C16 C23 C28

Other comments on the Evaluation

In the case of negative continuous evaluation, global evaluation and second call, the student will take a final exam on the contents of the subject. This test will consist of short-answer questions and biomechanics problem-solving tasks and will be worth 70% of the final grade. To obtain a positive assessment of the subject, in addition to a positive evaluation of the final exam, student will have to submit (on paper or in digital format) the reports and tasks proposed by the teachers during the course, which will account for 30% of the final grade (the deadline to hand in the activities would be the day of the official exam of the corresponding call).

The official dates of the exams are those published on the faculty's website.

Sources of information

Basic Bibliography

Izquierdo, Mikel, **Biomecánica y bases neuromusculares de la actividad física y el deporte**,

Complementary Bibliography

Aguado, Xabier, **Eficacia y Técnica Deportiva**, 2º edición,
Hay and Prentice-Hall, **The Biomechanics of Sport and Exercise**,
Bartlett, **Sport Biomechanics**, 1º edición,
Bartlett y Hong, **Routledge Handbook of Biomechanics and Human Movement Science**,
Pérez Soriano, Pedro, **Biomecánica básica: Aplicada a la actividad física y el deporte**,

Recommendations

Subjects that it is recommended to have taken before

Statistics: Research methodology and statistics in physical activity and sport/P02G050V01302
Physiology: Exercise physiology 2/P02G050V01401