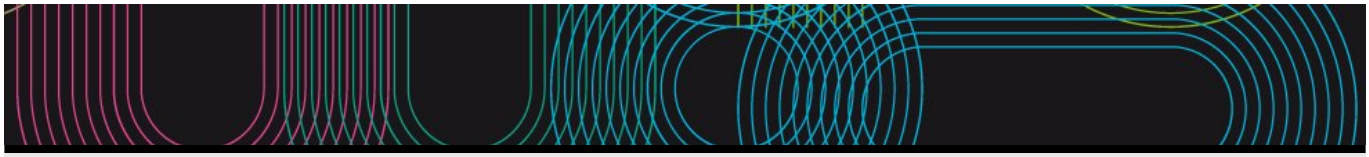

IDENTIFYING DATA				
Biochemistry-Physics: Biochemistry and biophysics				
Subject	Biochemistry-Physics: Biochemistry and biophysics			
Code	P05G171V01103			
Study programme	Grado en Fisioterapia			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	1st	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Conde Sieira, Marta			
Lecturers	Blanco Imperiali, Ayelén Melisa			
E-mail	mconde@uvigo.es			
Web	http://fisioloxiapeixes.webs.uvigo.es/en/			
General description				

Training and Learning Results	
Code	
A1	Students have demonstrated possession and understanding of knowledge in an area of study that builds on the foundation of general secondary education, and is usually at a level that, while relying on advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.
A2	Students are able to apply their knowledge to their work or vocation in a professional manner and possess the competences usually demonstrated through the development and defence of arguments and problem solving within their field of study.
B3	Communicate effectively and clearly, both orally and in writing, with users of the health system as well as with other professionals.
C1	To know the principles and theories of physical agents and their applications in physical therapy.
C2	Understand the principles of biomechanics and electrophysiology, and their main applications in the field of physical therapy.
C6	Identify anatomical structures as a basis of knowledge to establish relationships dynamically with the functional organization.
C34	To know and understand the morphology, physiology, pathology and behavior of people, both healthy and sick, in the natural and social environment.
D1	Ability to communicate orally and in writing in Galician.
D2	Computer skills related to the field of study
D3	Recognition of diversity and multiculturalism
D4	Creativity, entrepreneurial spirit and adaptation to new situations.
D7	Maintain an attitude of learning and improvement.

Expected results from this subject	Training and Learning Results		
New	A1 A2	C1 C2 C6 C34	D1
New	A1 A2	C1 C2 C6 C34	D1

New	A1 A2		C1 C2 C6 C34	D1
New	A2	B3	C2 C34	D1 D2 D3 D4 D7
New	A2	B3	C2 C34	D1 D2 D3 D4 D7

Contents

Topic	
I. Biochemistry	1. Carbohydrates 2. Lipids 3. Proteins and enzymes 4. Nucleic acids 5. Intermediate metabolism 6. Catabolic pathways 7. Anabolic pathways 8. Clinical biochemistry
II. Biophysics	1. Biophysics of membranes and transport processes 2. Biophysics of potentials 3. Biophysics of vision and audition 4. Muscle biophysics 5. Cardiovascular biophysics 6. Respiration biophysics 7. Biophysics of homeostasis 8. Biophysics of radiation

Planning

	Class hours	Hours outside the classroom	Total hours
Laboratory practical	10	15	25
Lecturing	39	84	123
Objective questions exam	1	0	1
Report of practices, practicum and external practices	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
Laboratory practical	Biophysics and Biochemistry laboratory practices and computer simulation of biophysical processes.
Lecturing	Theoretical, expository and participative classes using the available audiovisual media.

Personalized assistance

Methodologies	Description
Lecturing	Guidance tutorials and individual advising, which will be held at the time and place indicated at the beginning of the guide.
Laboratory practical	Guidance tutorials and individual advising, which will be held at the time and place indicated at the beginning of the guide.

Assessment

Description	Qualification	Training and Learning Results

Laboratory practical	Laboratory practices: attendance and participation in all the practices of the subject. In order to pass the course, attendance to all the practical sessions and the presentation of an individual report of each session is mandatory.	20		D1 D2 D3 D4 D7
Lecturing	2 midterm exams: Midterm 1 (40%): Biochemistry. During class time. Midterm 2 (40%): Biophysics. In ordinary convocation. The theoretical exams are of objective questions (multiple choice). The wrongly answered questions subtract (2 wrongly subtract 1 good).	80	C6	D1 D2

Other comments on the Evaluation

- Continuous evaluation: There will be 2 partial theoretical exams (partial 1: corresponding to the biochemistry syllabus and partial 2: biophysics syllabus) that will represent 40% (each one) of the overall mark of the subject. The remaining 20% will correspond to the practical grade. Attendance to the practicals is compulsory except for students repeating the course. It will be obligatory the delivery of a report for each practical session (two sessions) that will be evaluated (20 % of the global mark of the subject). In order to pass the continuous evaluation the student must obtain more than a 4 (out of 10) in all the items (part 1, part 2 and practical sessions).

- Global evaluation: A single theoretical exam (objective questions) that will have a value of 100% in the global mark of the subject.

- Evaluation in 2nd opportunity: Students with continuous evaluation will be able to examine only the partial that they still have to pass or the whole course syllabus.

Any other criteria (e.g. class attendance) will be governed by the general and specific regulations of the University of Vigo and the Faculty of Physiotherapy.

Sources of information

Basic Bibliography

Complementary Bibliography

AURENGO, **Biofísica**, Mc Graw-Hill,

DURÁN, J.E.R., **Biofísica: fundamentos e aplicaçoes**, Prentice Hall (Sao Paulo, Brasil),

NELSON y COX., **Principios de Bioquímica de Lehninger**, Omega,

LOZANO y col, **Bioquímica y Biología Molecular en Ciencias de la Salud**, Interamericana,

Recommendations

Other comments

No specific recommendations are made