



## IDENTIFYING DATA

### Biochemistry: Biochemistry

Subject	Biochemistry: Biochemistry			
Code	V53G140V01103			
Study programme	(*)Grao en Enfermaría			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	1st	1st
Teaching language	Spanish			
Department				
Coordinator	García Suárez, Alfonso			
Lecturers	de Miguel Bouzas, José Carlos García Suárez, Alfonso			
E-mail	algas46@gmail.com			
Web	<a href="http://www.cepovisa.com">http://www.cepovisa.com</a>			
General description	Bioquímica Human. Studio descriptivo of wools principales biomoléculas of him organism, with atención special al water y disoluciones. Repaso Of los aspects geneales of him metabolism , with atención special al human. Relacion It go in he corecto funcionamiento of estos processes y he been of salud.			

## Competencies

Code			
A1	Students have demonstrated knowledge and understanding in an area of study that comes from the basis of the general secondary education, and it is often found at a level that, if well supported on advanced text books, it also includes some aspects that involve knowledge from the forefront of their field of study.		
A3	Students have the capacity to collect and interpret relevant data (normally within their area of study) to make judgments that include a reflection on relevant topics of social, scientific or ethical nature.		
C1	To know and identify the structure and function of the human body. To understand the molecular and physiological basis of cells and tissues.		
D1	Analysis and synthesis ability		
D7	Critical reasoning.		

## Learning outcomes

Expected results from this subject	Training and Learning Results		
Knowledge relevante, and capacity to apply basic sciences and of the life.	A1 A3	C1	D1
Know distinguish the process of xeneración, storage and utilization da enerxía metabólica.		C1	D1
Be able to distinguish the molecular systems are processes involved in the almacenaiiento, replicación e expresión of wool genetic information.		C1	D1 D7
Know comprise the molecular changes associated the distinct situaciones physiological and patolóxicas.		C1	D1 D7

## Contents

Topic	
1.- Introducción The biochemical	Brief introduccion historica. The world of the bioquímica: dimensiones, distancias etc... The saude and the illness since the point of view of the Bioquímica. Relacion Of the bioquímica with other sciences.
2.- Cellular biology	Brief repaso to the estrutura of the celula eucariota and the sús function. Organulos of but interés Membranes: the sua function and fenomenos of transport.

3.-Bases of the biochemical: *bioelementos, *biomoléculas, water and *disoluciones, sour and bases	*Bioelementos: Abundance and *distribucion. *Biomoléculas: *dimensiones *Estructura And properties. Distribution of the water in the organism. *Balanzo *hidrico And control *hormonal *Disoluciones Component.Criteria of ranking.Forms to express the concentration.Acidity and *basicidade and his measure: scale of pH.*Disoluciones *amortiguadoras And his *impptancia.Disorders of the balance *acido-base: *acidose and *alcalose.*Osmose And pressure *osmotica.*difusión And *dialise.*Disoluciones Of salts. Balance *hidroelectrolitico
4.-Biochemical *estructural: *carbohidratos, *lípidos, *lipoproteínas, proteins	*Glucidos:General properties.*Estereoisomeria. Ranking.Derivatives of the *monosacaridos.It link *glicosidico. *Oligosacaridos And *polisacaridos of interest *bioloxico.Importance of the determination of *glicosidos in *bioquímica clinical : *diabetes,*galactosemia *fructosuria essential,intolerance to the *lactosa *Lipidos : Diverse criteria of ranking. *Lipidos Related with *acidos fatty:*Acilgliceridos and *eicosanoides.*Lipidos Of membrane:*fosfolipidos and *esfingolipidos *Lipidos *isoprenoides.Steroids *Aminoacidos and *proteínas: *minoacidos and his ranking. Properties of the *aminoacidos. *Aminoacidos Modified of *interés *bioloxico Link *peptidico.*Peptidos And *proteínas.Ranking of *proteínas.*Proteínas *plasmaticas. *Enzimas: Ranking. *Cinetica. *Modulacion Of the activity
5 energetic Metabolism: *mitocondrias and *obtención of energy. Metabolism of the hydrates of carbon. Metabolism of the *lípidos and *lipoproteínas. Nitrogenous metabolism	. Human metabolism. Processes of digestion and *absorción. Studio of the main processes *biosinteticos and *degradativos
6.-- · Genetic information	Nitrogenous bases, *nucleosidos and *nucleotidos. *Polinucleotiidos. Substances of interest *bioloxico in the that take part the *nucleotidos *Estructura and functions of DNA and ARN.Replication,*transcripción and *traducción.*Biosintese Of *proteínas.*Codigo *xenetico.

## Planning

	Class hours	Hours outside the classroom	Total hours
Master Session	34	74	108
Seminars	6	9	15
Autonomous troubleshooting and / or exercises	4	15	19
Introductory activities	2	0	2
Group tutoring	3	0	3
Multiple choice tests	1	0	1
Short answer tests	1	0	1
Long answer tests and development	0.5	0	0.5
Troubleshooting and / or exercises	0.5	0	0.5

\*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

## Methodologies

	Description
Master Session	Exhibition of the contained envelope to subject object of study, bases *teóricas and guidelines stop the resolution of exercises,and realization of works or projects to develop pole student
Seminars	Activity focused to works on subjects *especificos, that allow to supplement or *afondar the contents of the subject
Autonomous troubleshooting and / or exercises	Formulation of exercises related with the subject,owing develop the student the suitable solutions exercising routines,applying formulate or algorithms. It used how supplement to the lesson *maxistral.
Introductory activities	Activities *encamiñadas to take contact and gather information envelope the students, *asi *comoa present the subject
Group tutoring	*Reunions Of *caracter *periodico with groups reduced of students with the object of power control the progress in the understanding of the subject by part of the students, the *trves of *cuestiones risen by them or #well induced pole professor.

## Personalized attention

Methodologies	Description
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Seminars	Academic activity developed pole teaching staff, individual or in small group, that has how aim attend the needs and queries of the students related with the study and/or subjects linked with the subject, providing orientation, support and motivation in the process of learning. This activity can developed of form *presencial (directly in the classroom and in the moments that the professor has assigned to *titorías of dispatch) or of form no *presencial (through the email or of the virtual campus).
Autonomous troubleshooting and / or exercises	Academic activity developed pole teaching staff, individual or in small group, that has how aim attend the needs and queries of the students related with the study and/or subjects linked with the subject, providing orientation, support and motivation in the process of learning. This activity can developed of form *presencial (directly in the classroom and in the moments that the professor has assigned to *titorías of dispatch) or of form no *presencial (through the email or of the virtual campus).
Group tutoring	Academic activity developed pole teaching staff, individual or in small group, that has how aim attend the needs and queries of the students related with the study and/or subjects linked with the subject, providing orientation, support and motivation in the process of learning. This activity can developed of form *presencial (directly in the classroom and in the moments that the professor has assigned to *titorías of dispatch) or of form no *presencial (through the email or of the virtual campus).

### Assessment

	Description	Qualification	Training and Learning Results
Multiple choice tests	Proofs for evaluation of the competitions purchased that include questions closed with different alternatives of answer (true/false, multiple election, *emparellamento of elements...). The students select an answer go in a number limited of possibilities	40	C1
Short answer tests	Proofs for evaluation of the competitions purchased that include direct questions envelope a concrete aspect. The students owe to answer of direct and brief way in base to the knowledges that have envelope to subject	20	C1
Long answer tests and development	*Incluen Open questions envelope a subject. The students owe to develop, relate and *organizaros knowledges that have envelope to subject, in an extensive answer.	20	A1 C1 D1 A3
Troubleshooting and / or exercises	Resolution of problems or exercises in a time determined	20	A1 C1

### Other comments on the Evaluation

Stop the students that do not achieve the \*calificación of approved in the 1º announcement, will establish a system of recovery that will be \*basado in \*titorias individual or in reduced groups, with realization of proofs enabling writings check the advance in the recovery and that will be taken into account to the hour to qualify the \*rpoba of the second announcement

### Sources of information

Macarullá -Goñi, **Bioquímica Humana**, 3ª,  
 Lozano e outros, **BIOQUIMICA PARA CIENCIAS DE LA SALUD**, 3ª,  
 Noriega-Borge, **Enfermería, principios de bioquímica**, 1ª,  
 Jan Koolman, **Bioquímica Humana**, 4ª,

### Recommendations

#### Subjects that continue the syllabus

Physiology: Physiology/V53G140V01105  
 Pharmacology and dietetics/V53G140V01203

#### Subjects that are recommended to be taken simultaneously

Human Anatomy: Human Anatomy/V53G140V01101  
 Physiology: Physiology/V53G140V01105

### Other comments

They will recommend \*tamen the texts used in 2º of \*bacharelato in the subjects of \*química and especially \*biología since in them is the base of the that goes \*estudiar in the present course, but enlarged and with approach directed to the

\*bioquímica human.

To the pertinent students of FP, if they offered him \*tutorías of group in the that \*podrán " \*repasar" those concepts \*básicos, whose knowledges need for power follow the program of \*Bioquímica

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