



IDENTIFYING DATA

Biochemistry: Biochemistry

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| 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 | http://www.cepovisa.com | | | |
| General description | Bioquímica Human. Studio descriptivo of wools principales biomoléculas of him organism, with atención especial al water y disoluciones. Repaso Of los aspects geneales of him metabolism , with atención especial al human. Relacion It go in he corecto funcionamiento of estos processes y he been of salud. | | | |

Competencies

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|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| 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. |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.-Bases of the biochemical: *bioelementos, *biomoléculas, water and *disoluciones, sour and bases | *Bioelementos: Abundance and *distribucion. *Biomoléculas: *dimensions *Estructura And properties. Distribution of the water in the organism. *Balanço *hidrico And control *hormonal *Disoluciones Component.Criteria of ranking.Forms to express the concentration.Acidty and *basicidade and his measure: scale of pH.*Disoluciones *amortiguadoras And his *impotancia.Disorders of the balance *acido-base: *acidos 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 *biológico.Importance of the determination of *glicosidos in *bioquímica clínica : *diabetes,*galactosemia *fructosuria essential,intolerance to the *lactosa *Lípidos : Diverse criteria of ranking. *Lípidos Related with *ácidos fatty:*Acilgliceridos and *eicosanoides.*Lípidos Of membrane:*fosfolípidos and *esfingolípidos *Lípidos *isoprenoides.Steroids *Aminoácidos and *proteínas: *aminoácidos and his ranking. Properties of the *aminoácidos. *Aminoácidos Modified of *interés *biológico Link *peptídico.*Peptidos And *proteínas.Ranking of *proteínas.*Proteínas *plasmáticas. *Enzimas: Ranking. *Cinética. *Modulación 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 *biosintéticos and *degradativos |
| 6.-- · Genetic information | Nitrogenous bases, *nucleosidos and *nucleotidos. *Polinucleótidos. Substances of interest *biológico in the that take part the *nucleotidos *Estructura and functions of DNA and ARN.Replication,*transcripción and *traducción.*Biosíntesis Of *proteínas.*Código *genético. |

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 *específicos, 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 *maximal. |
| Introductory activities | Activities *encaminadas to take contact and gather information envelope the students, *así *como a present the subject |
| Group tutoring | *Reunions Of *carácter *periódico 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 *traves of *cuestiones risen by them or #well induced pole professor. |

Personalized attention

| Methodologies | Description |
|---------------|-------------|
|---------------|-------------|

| | |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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**, 3º,
 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 especialmente *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
