

ID	2973
Curricular Unit	Introduction to Biochemistry
Regent	Cristina Paula Fidalgo de Negreiros Monteiro Bento
Learning Outcomes	<p>This curricular unit aims to give basic instruction in biochemistry, in the perspective of the study of the molecular phenomena underlying the structure and function of the human body.</p> <p>The students should be able: to identify and classify the different elements and molecules that constitute the human body and to describe their main functions; to predict some behaviours of biomolecules in water according to their chemical properties; to describe the metabolic processes that allow genetic information to be translated into an to control all body constituents and to identify possible sources of pathology; recognize the main intervenients in the processes of molecular regulation; describe metabolic processes by which the human body can obtain, store and use energy, in different environmental situations, using as a model human movement; identify reactive oxygen species and relate them to biological development in health and disease.</p>
Syllabus	<p>The following subjects are explored: origin of life on earth; elemental composition of the human body; macro, micro and trace elements, their main functions and nutritional sources; the cell: attributes, structure and functions; basic notions on chemistry and physics in aqueous solutions; biomolecules: structure, classification and function of carbohydrates, lipids, proteins and nucleic acids; protein synthesis from genetic information and identification and classification of sources of pathology; structure, classification and action of enzymes, hormones and neurotransmitters; bioenergetics: metabolism of carbohydrates, lipids and proteins and the physiological integration of these biochemical metabolisms in different environmental situations, using as a model human movement; oxygen reactive substances in the development of living beings and in pathology.</p>
Evaluation	<p>In the lectures, contents are transmitted by using the expository teaching method with the support of slides.</p> <p>In the lecture-practical classes we privilege the adoption of a work group task methodology for the resolution of problems concerning subjects presented both in lecture and lecture-practical classes. Specific topics presented in lecture classes are open for discussion. Laboratory classes are also included.</p> <p>Classification is obtained by performing a written exam including all subjects presented in the lecture and lecture/practical classes or by performing two written tests (mean account for 90 % of final score) and a laboratory class report (10% of final score). In the latter, the student is approved if a minimum score of 9.5 (score from 0 to 20) is obtained in both tests and in the lab report.?</p>

Bibliography

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