

ID	2601
Curricular Unit	Introduction to Biochemistry
Regent	Cristina Bento
Learning Outcomes	Basic education in biochemistry, in the perspective of the study of the molecular phenomena underlying the structure and function of the biological systems focussing on the biomolecular processes related to human movement.
Syllabus	After a brief summary on the evolution of Biochemistry, the following subjects are developed: elementary composition of the human body; macro, micro and trace elements, their nutritional importance and influence on motricity; basic notions on organic and inorganic chemistry; basic notions on chemistry and physics in Biochemistry; enzymology; bio molecules: structure, function and preventive nutrition of carbohydrates, lipids, proteins and nucleic acids. Metabolism of carbohydrates, lipids and proteins at rest and during exercise; sequential usage of substrates and limiting factors of physical performance; hormonal response to exercise; physiological integration of biochemical metabolisms. Oxygen free radicals in exercise.
Evaluation	Final Examination. Written test (90 minutes), covering all the contents (lectures and lecture/practicals classes). Students with results between 8 and 9 submit to oral examination.
Bibliography	Laires, M.J. (2006). Bioquímica, Faculdade de Motricidade Humana. Stryer, L. (1988). Biochemistry. 3ª ed., W.H. Freeman and Company, New York, Bib. FMH nº 16907 Devlin, T.M. (1986). Textbook of Biochemistry with Clinical Correlations. Ed. Devlin, T.M., 2ª ed., John Wiley and Sons, New York. Bib. FMH nº 16894 Holm, J.R. (1986). Fundamentals of General Organic and Biological Chemistry. John Wiley and Sons, New York. Bib. FMH nº 17473 Manso, C., Freire, A. & Azevedo, M. (1986). Introdução à Bioquímica Humana, 3ª ed., Fundação Calouste Gulbenkian, Lisboa. Bib. FMH nº 18843 Newsholme, E.A. & Leech, A.R. (1983). Biochemistry for the Medical Sciences. John Wiley and Sons, Bib. FMH nº 17110 Rawn, D.J. (1989). Bioquímica, McGraw Hill. Interamericana de España. Vol I - Bib. FMH nº 18437; Vol II - Bib. FMH nº 18438 Silva, J.A.M., Geada, H.M. & Freire, A.M. (1979). Introdução à Bioquímica Médica. Fundação Calouste Gulbenkian, Lisboa. Weil, J. (1979). Bioquímica Geral, Fund. Calouste Gulben