

Course Title	Medical Biochemistry II				
Course Code	MD140				
Course Type	Compulsory				
Level	1 st Cycle (MD)				
Year / Semester	1 st Year / 2 nd Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	2 Hrs / 14 weeks	Laboratories / week	4 Hrs / 14 weeks
Course Purpose and Objectives	The objective of the course is to familiarize students with the biochemical pathways and their relationship with the pathophysiology of diseases and the application of biochemical diagnostic procedures				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> Analyse and evaluate the biochemical processes as the fundamental basis of life and of all vital processes and functions in the human body. Analyze the principal metabolic strategies that are used by the human body in relation to energy. Describe the principal biochemical metabolic processes, their interrelationships and their role in maintaining bioenergetic balances in the body Relate the metabolic changes in pathophysiological processes to the most common biochemical analyses; to analyse and evaluate the origin of changes and their physiological consequences. Describe the role of hormones and their relationship to disease processes Describe the fundamentals employed in designing the principal biochemical techniques, especially those most utilized for diagnosis (e.g. electrophoresis, ELISA, etc.). Write and prepare a scientific paper and how to prepare poster presentation. Experience and organize oral presentations/case reports. 				
Prerequisites	None		Co-requisites	None	
Course Content	<ul style="list-style-type: none"> Metabolic changes in pathophysiological processes. Oxidation and biosynthesis of fatty Biosynthesis of membrane lipids and steroid hormones Biosynthesis of amino acids, nucleotides and nucleic acids Protein synthesis Glycolysis and gluconeogenesis Citric acid cycle, Cori's cycle. 				

	<ul style="list-style-type: none"> • Metabolic processes of the principal types of biomolecules; and their interrelations. • Hormones, hormonal action and the biochemical processes related organs • Mitochondrial diseases. • Glucose metabolism, insulin resistance and, metabolic syndrome • Metabolism of fats and hyperlipidaemia • Functional biochemistry • Laboratory evaluation of liver function, of tumor markers and of muscle fiber-myocardial infarcts. 						
Teaching Methodology	Face-to-face						
Bibliography	<p>Textbook of Biochemistry with Clinical Correlations; Devlin, Thomas M.; 978-0470281734; John Wiley;</p> <p><u>Biochemistry: International Edition</u>; Berg, J.M. / Tymoczko, J.L.; 978-1429276351; W. H. Freeman;</p> <p>Study Guide for Chemistry: An Introduction to General, Organic, and Biological Chemistry; Karen C. Timberlake; 11; 978-0697250032; Prentice Hall;</p> <p>Clinical Biochemistry: Metabolic and Clinical Aspects; Marshall William; 978-0443101861; Churchill Livingstone;</p> <p>Lehninger Principles of Biochemistry; David L. Nelson; 978-1429208925; W. H. Freeman;</p> <p>Harpers Illustrated Biochemistry; Harper, H./Robert, K. Murray; 978-0071765763; McGraw-Hill;</p>						
Assessment	<table> <tr> <td>Examinations:</td> <td>70%</td> </tr> <tr> <td>Assignment/Lab</td> <td>20%</td> </tr> <tr> <td>Class Participation:</td> <td>10%</td> </tr> </table>	Examinations:	70%	Assignment/Lab	20%	Class Participation:	10%
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Language	English						