

Course Title	Introduction to Human Biology				
Course Code	BMS111				
Course Type	Compulsory				
Level	Bachelor (1st Cycle)				
Year / Semester	1 st Year / 2 nd Semester				
Teacher's Name	TBA				
ECTS	6	Lectures / week	3 Hours	Laboratories / week	2 Hours
Course Purpose and Objectives	This course is intended to give the student a broad overview of biology with respect to humans. It is designed to acquaint students with the fundamental terms, concepts, and principles of human biology and to serve as a foundation upon which subsequent courses in biomedical sciences will be based.				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Describe the normal structure and architecture of eukaryotic cells, as well as the subcellular organelles and their respective role in the cells. • Describe the relationship and mode of communication between neighboring cells and between cells and their extracellular environment. • Recall the structure and role of cell membrane and its role in normal cell function. • Describe the two types of cell division, and the phases of each cell-division cycle. • Describe the general characteristics of the processes of gametogenesis and insemination. • Explain the processes of cell division: cleavage, blastulation and gastrulation in the human embryo. • Identify and describe the processes involved in the formation of the ectoderm, mesoderm and endoderm and to establish their relationship with the development of each organ in the human body. • State the process of cell differentiation and its role in the production of numerous and diverse cell types. • Define the <u>fundamental</u> changes in the normal structure and function of cells and their relationships to the appearance of different types of pathological states. 				

	<p>Laboratory skills</p> <ul style="list-style-type: none"> • Explain the function of each one of the components of an optical microscope • Use the optical microscope to identify the different cell types and their basic cellular component organelles. • Identify and interpret the different phases of mitosis using the optical microscope. • Describe and identify different cell types in basic tissues of the human body 		
Prerequisites	None	Co-requisites	None
Course Content	<p>In that regard, students will familiarize themselves with:</p> <ul style="list-style-type: none"> • The macromolecules found in cells (such as lipids, proteins, polysaccharites) and their basic chemical composition • The structure of eukaryotic and prokaryotic cells • The subcellular organization of each cell type, including description of subcellular organelles • The structure and function of cell membrane • Cell division • Basic description of gametogenesis and gastrulation in the human embryo • Cell differentiation and production of diverse cell types of the human body • The organization of cells in tissues and tissues in organs • Basic description of the cell characteristics in each tissue in the human body (skin, skeletal system, nervous system, muscular system, respiratory system, immune system, digestive system, endocrine system, reproductive system). • Fundamental changes in the normal structure and function of cells and their relationships to the appearance of different types of pathological states. <p>Laboratory exercises:</p> <ul style="list-style-type: none"> • Observing cells with light microscopy (i.e. skin, hair, cheek cells) • Observing organ systems through dissection using animals such as mice • Observing various body tissues under the microscope using premade slides • Characteristics of normal blood smear • Calculations and unit conversions in biomedical sciences • Identifying bacteria in dental plaque • Blood pressure measurements: does body position affect blood pressure? • Testing for neuropathy by two-point discrimination test 		

Teaching Methodology	Face- to- face										
Bibliography	<p>Molecular Biology of the Cell; Alberts, B./ Hopkin, K./Johnson, A.; 5th; 978-0815341062; Garland Science; 2008</p> <p>Molecular Medicine; Trent, R.; 4th; 978-0123814517; Academic Press; 2011</p> <p>Visualizing Human Biology Lab manual; Ellie J., Wiley publisher</p>										
Assessment	<table border="1"> <tr> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignment /Lab</td> <td>20%</td> </tr> <tr> <td>Class participation</td> <td>10%</td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Mid-Term Examination	30%	Final Examination	40%	Assignment /Lab	20%	Class participation	10%		100%
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Language	English										