

Course Title	Microbiology				
Course Code	BMS321				
Course Type	Compulsory				
Level	Bachelor (1st Cycle)				
Year / Semester	3 rd Year / 6 th Semester				
Teacher's Name	TBA				
ECTS	7	Lectures / week	3 Hours	Laboratories / week	2 Hours
Course Purpose and Objectives	<p>The objective of the course is to familiarize students with</p> <ul style="list-style-type: none"> • The structure of microbial, viral and parasitic agents and their replication or growth • The pathogenicity, prevention and treatment of infectious diseases 				
Learning Outcomes	<p>Upon successful completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Discuss the fundamentals of microbiology and parasitology. • Describe the normal microflora in humans and the characteristics of the host-parasite relationship. • Describe the general characteristics of the microorganisms and pathologic parasites in humans. • Correlate the most important infectious syndromes with the respective principal pathogens. • Demonstrate that they have acquired expertise about the procedures used to obtain and process biological fluids and other samples for microbiological study. • Demonstrate that they have acquired the expertise to use the optical microscope for microbiological diagnosis. • Demonstrate that they have acquired the expertise regarding the principal techniques of microbiological, parasitological and serological testing and to interpret the respective results. • Demonstrate that they have acquired the expertise to apply appropriately the techniques used for disinfection and sterilization. • Discuss the foundations for the microbiological basis of the clinical use of antimicrobials, their action mechanisms, resistance mechanisms and tests used to evaluate the sensitivity of antimicrobials and the interpretation of those test results. 				

	<ul style="list-style-type: none"> Describe the procedures for the prevention and control of infectious diseases. Demonstrate that they have acquired expertise to carry out simple diagnostic techniques used in microbiology. 		
Prerequisites	BMS111	Co-requisites	None
Course Content	<p>Theory:</p> <ul style="list-style-type: none"> Fundamentals of microbiology and parasitology. Normal microflora in humans. Characteristics of the host-parasite relationship. General characteristics of microorganisms and pathogen parasites in humans. Culture and nutritional needs of microorganisms Microbial genetics Techniques for microbiological, parasitological and serological diagnosis and interpretation of results. Disinfection and sterilization techniques. Microbiological basis of the clinical use of antimicrobials. Prevention and control of infectious diseases. Vaccinations. Environmental microbiology, nitrogen cycle, carbon cycle, phosphorous cycle, sulphur cycle, symbiotic relationships <p>Laboratory exercises:</p> <ul style="list-style-type: none"> The microbiology lab-regulations Culture media for microorganisms-aseptic culture conditions-sterilization Microscopic observation and staining Assessment of microbial population size Microbial detection methods Microbial growth-Effect of physical parameters on microbial growth Assessment of antimicrobial and/or antibiotic effectiveness. 		
Teaching Methodology	Face- to- face		
Bibliography	<p>Medical Microbiology; Murray, P.; 6th; 978-0323054706; Mosby; 2008</p> <p>Microbiology: An Introduction; Tortora, Gerald; 11th; 978-0321798541; Pearson; 2012</p> <p>Immunology; Goldsby, R. / Kindt, T. / Osborne, B.; 6th; 978-0716767640; W. H. Freeman; 2006</p> <p>Basic Immunology Updated Edition: Functions and Disorders of the Immune System; Abul K. Abbas; 3rd; 978-141605569; Saunders; 2010</p>		

	<p>ADDITIONAL RECOMMENDED TEXTBOOKS:</p> <p>Clinical Chemistry: Theory, Analysis, Correlation; Kaplan, A.; 5th; 978-0323036580; Mosby; 2009</p> <p>Medical Microbiology: A Guide to Microbial Infections: Pathogenesis, Immunity, Laboratory Diagnosis and Control; Greenwood, David; 17th; 978-0443102097; Churchill Livingstone; 2007</p>										
<p>Assessment</p>	<table border="1"> <tr> <td>Mid – Term Examination</td> <td>30%</td> </tr> <tr> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>Assignments/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%	Assignments/Lab	20%	Class Participation	10%		100%
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	100%										
<p>Language</p>	<p>English</p>										