

Semester	1		
Course Code:	BIOL 11512		
Course Name:	Scope and Fundamentals of Microbiology (Lecture cum Laboratory)		
Credit Value:	2		
Core/Optional	Core		
Hourly Breakdown	Theory	Practical	Independent Learning
	45 hrs	30 hrs	25 hrs
Course Aim/Intended Learning Outcomes:			
Upon successful completion of this course student will be able to;			
<ul style="list-style-type: none"> • Identify the contributions made by the scientists to the development of microbiology, • Demonstrate the understanding of principles of taxonomy and basic physiological characteristics of microorganisms, • Demonstrate the understanding of the basic laboratory methods used in the study of microorganisms, • Demonstrate the understanding of microbiology related to food, soil and wastewater treatment and • Make themselves equal, irrespective of their different degree of background knowledge on the subject gained during their A/L. 			
Course Content:			
Origin and Scope of Microbiology, Major divisions of the living world, <i>Structure and functions</i> : prokaryotic and eukaryotic cells, <i>Diversity of microbial world</i> : General introduction (Bacteria, Fungi, Virus, etc.). <i>Microbial growth</i> : the definition of growth and growth curve of bacteria. Principles of microbial nutrition. Formulation of culture media. Different types of culture media.			
Introduction to Food microbiology, soil microbiology, and Water and wastewater microbiology.			
Laboratory sessions:			
<i>Examination of living Microorganisms</i> : Wet mount Techniques, Examination of living microorganisms in the natural environment. Microscopic examination of bacteria, endospores and capsules, <i>Control of microorganisms</i> : the theory and practice of sterilization and disinfection. <i>Basic microbiological techniques</i> : Pure culture techniques, Preparation of culture media. Isolation of pure cultures.			
Teaching /Learning Methods: Combination of lectures laboratory classes and tutorials			
Assessment Strategy: End of course unit examination			
Continuous Assessment		Final Assessment	
0%		100%	
Details: N/A		Theory (%)	Practical (%)
		100	-
			Other (%)
			-
Recommended Reading:			
<ul style="list-style-type: none"> • Madigan, M.T., Martinko, J.M., Bender, K.S., Buckley, D.H., and Stahl, D.A. (2015) <i>Brock Biology of Microorganisms</i>. 15th edition. Pearson Education. • Tortora, G.J., Funke, B.R. and Case, C.L. (2010) <i>Microbiology: An Introduction</i>. 10th Edition. Pearson Education. • Willey, J.M., Sherwood, L.M. and Woolverton, C.J. (2008) <i>Prescott, Harley, and Klein's Microbiology</i>. 7th edition. McGraw-Hill Companies, Inc. 			