



Umm Al-Qura University
Applied Medical Sciences College
Laboratory Medicine Program



Course Overview

Course code :	1701261-3
Course title:	Basics of Microbiology
Level/semester:	2 nd Year (Second Semester)
Credit hours:	Theoretical: 2
	Practical: 1
Language:	English
Name of course coordinator	Dr. Mohammad Mubashir Ahmad Khan
Course objectives:	<p>By the end of this course, students will be able to:</p> <ol style="list-style-type: none"> 1. <i>define</i> classification, cell structures and general properties of bacteria, fungi and viruses 2. <i>describe</i> basic principles of sterilization and disinfection and laboratory safety rules 3. <i>state</i> growth requirement and reproduction of bacteria, viruses and fungi 4. <i>explain</i> the concept of host-microbe relationship 5. <i>recognize</i> the mechanisms of action of antibiotic, antifungal and antiviral agents 6. <i>demonstrate</i> practical knowledge of basic microbiological techniques for isolation and identification of bacteria, viruses and fungi and antimicrobial susceptibility 7. <i>list</i> major clinically important bacterial, viral and fungal pathogens
Course contents:	Semester 2
	<ul style="list-style-type: none"> • Introduction to microbiology • Bacterial taxonomy and bacterial cell structure • Sterilization and disinfection • Bacterial nutrition, growth and metabolism • Laboratory diagnosis of bacterial diseases: Staining methods, culture techniques and characteristics, biochemical reactions, molecular and serological techniques • Bacterial genetics • Antimicrobial chemotherapy • General properties of fungi, its classification, structure and reproduction • General properties and classification of viruses • Viral replication • Interaction between viruses and host cells • Host response to viral infections and immunity • Laboratory diagnosis of viral diseases
Student's' assessment methods:	<ul style="list-style-type: none"> • Periodical exams 20% • Students assignment 10% • Final practical exam 30% • Final written exam 40%