

Department	Pharmacy
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Course Name	Pharmaceutical Microbiology 1	Course No.	0201236
Prerequisite	Physiology 1	Credit Hours	2
Number & date of course plan approval	2016/2017	Brief Description	See form QF02/0409

Course Objective	<p>The students should learn the following:</p> <ol style="list-style-type: none"> 1. The basic information about all types of microorganisms, their basic structure and mode of growth, medical and pharmaceutical importance. 2. Know the basics of taxonomy. 3. Know the different relationships between hosts and microbes. 4. Know the basics of epidemiology and measures needed to limit disease spreading. 5. Know some infectious diseases, their signs and symptoms and treatment.
Intended Learning Outcomes	<p>Successful completion of the course should lead to the following outcomes:</p> <ol style="list-style-type: none"> 1. Know the importance of studying microbiology. 2. Know the general characteristics of prokaryotic and eukaryotic cells. 3. Know the basic information about microorganisms (bacteria, fungi, protozoan parasites and viruses) their basic structure and mode of growth. 4. Know the properties of virus like agents. 5. Know some microorganisms that have medical, pharmaceutical and environmental importance. 6. Know the meaning of chemotherapy and antibiotics 7. Know the meaning of selective toxicity, spectrum of activity in the context of antimicrobial agents 8. The basic information about the different types of antimicrobial therapy, their prudent use and their mode of action
Course Topics	<ol style="list-style-type: none"> 1. Fundamentals of microorganisms that include bacteria, fungi, protozoa and viruses. 2. Factors that affect microbial growth. 3. The principles of microbial pathogenicity. 4. Infectious diseases of some body systems 5. Antimicrobial agents and microbial resistance.

Text Books	Hugo, W.B and Russell, A.D.(2011); Pharmaceutical Microbiology, 8th ed. Blackwell Science, UK			
References	<ol style="list-style-type: none"> 1. Black, J.G. (2015); Microbiology, Principles and explorations. 9th ed. John Wiley Publication, USA. (Latest edition). 2. Prescott, L.M., Harley, J.P., and Klein, D.A.(2008); Microbiology, 7th ed. McGraw Hill, USA 			
Grade Determination	1 st Exam = 25% 2 nd Exam = 25% Final Exam = 50%			
Course Outline				
Week	Hours	Subjects	Chapters in Textbook	Notes
1	2	Introduction to pharmaceutical microbiology	Chapter 1	
2	2	Bacteria, structure and forms of bacterial cell.	Chapter 3	
3	2	Bacterial reproduction, bacterial growth. Properties of pathogenic bacterial species. Properties of fungi, detection methods.	Chapter 3	
4	2	Pathogenic fungi <i>C. albicans</i> , <i>Cryptococcus neoformans</i> and <i>Aspergillus fumigatus</i> .	Chapter 4	
5	2	Antifungal agents and fungal resistance.	Chapter 4	
6	2	Protozoa: Blood and tissue parasites Intestinal parasites.	Chapter 6	
7	2	Control of protozoan parasites and their drug resistance.	Chapter 6	
8	2	Viruses: general properties, structure, Multiplication of human viruses. Problems of viral chemotherapy, tumor viruses and HIV	Chapter 5	
9	2	Viral infections	Chapter 5	
10	2	Principles of microbial pathogenicity. Portals of entry, manifestation of disease.	Chapter 7	
11	2	Microbial pathogenicity: Damage to tissues, exit of microorganisms	Chapter 7	
12	2	Microbial Biofilms	Chapter 8	
13	2	Antibiotics and agents and their mechanism of action.	Chapter 11	
14	2	Bacterial resistance to antibiotics:	Chapter 13	
15	2	Clinical uses of antimicrobial drugs	Chapter 14	



Course Detailed Description – Procedures of the Course Plan Committee /Faculty of Pharmacy

QF02/0408–2.1E

Approved by Dept. Chair

Date of Approval

Extra Information: (Updated every semester and filled by course instructor)

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