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Course Syllabus

1	**Course title**	Pharmaceutical Microbiology I
2	**Course number**	1202341
3	**Credit hours**	3
	Contact hours (theory, practical)	3 (theory)
	Course Level/Hours according to Jordan National Qualifications Framework (JNQF) Standards	7th/110
4	**Prerequisites/corequisites**	Prerequisite: 0304101 (General Biology II)
5	**Program title**	BSc Pharmacy and Pharm D
6	**Program code**	N/A
7	**Awarding institution**	The University of Jordan
8	**School**	School of Pharmacy
9	**Department**	Pharmaceutics and Pharmaceutical Technology
10	**Course level**	Undergraduate
11	**Year of study and semester (s)**	Second semester of the 3rd year
12	**Other department (s) involved in teaching the course**	N/A
13	**Main teaching language**	English
14	**Delivery method**	☒Face to face learning ☐Blended ☐Fully online
15	**Online platforms(s)**	☒Moodle ☒Microsoft Teams ☐Skype ☐Zoom ☐Others……
16	**Issuing/Revision Date**	3/3/2024

17 Course Coordinator:

Name: Randa Haddadin	Contact hours:
Office number: 215 B	Phone number: 23314
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18 Other instructors:

Name: Prof Amal Al Bakri Office number: 23330 Phone number: Email:agbakri@ju.edu.jo Contact hours:

19 Course Description:

Know different types of microorganisms: what they are made of, how they live and function, how they can affect our life and how to deal with the biorisk associated with them. Appreciate the importance of having a variety of antimicrobial medications, discover the way they work and learn how to properly use them. Understand the microbial disease processes and how new diseases emerge. Explain how our immune system and other defense mechanisms can protect us from pathogens and other threats and also what happens when they malfunction. Recognize the common infectious diseases that can affect our body and how we can prevent, control and treat them

20 Course aims and outcomes:

A- Aims:

1. Provide the students with the basic information about microorganisms, their basic structure and mode of growth
2. Introduce some microorganisms that have medical, pharmaceutical and environmental importance.
3. Provide the students with the basic principles of immunity and immunization
4. Provide the students with the basic information about the different types of antimicrobial therapy, their prudent use, mode of action, resistance mechanisms, and how to combat antimicrobial resistance
5. Provide the students with the basic information about the common infectious diseases including their causative agent, transmission, clinical manifestation, prevention and treatment.

B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

Discriptors	CLO No.	SLOs of the program (PLOs) / SLOs of the course (CLOs)	Learner	Communica-tor	Care giver	Professional
Knowledge	**K1**	Compare between different types of microorganisms, their classification, structure, specimen preparation and visualization, their growth and culture and factors affecting their growth	√			
	K2	Identify different host-microbe relationships and the principles of emerging infectious disease, their transmission and prevention	√			
	K3	Recognize different host defense mechanisms, how they work, their role and their disorders	√			
	K4	Identify common infectious diseases, their causative agents, symptoms, prevention and the different classes of antimicrobial drugs with their mechanism of action, spectrum of activity and resistance mechanisms	√			
Skills	**S1**	Implement the knowledge gained during the course in suggesting different treatment options and prevention methods to different infectious diseases			√	
	S2	Demonstrate effective presentation and communication skills to effectively convey scientific concepts and findings.		√		
Competencies	**C1**	Show integrity, responsibility, and commitment by not cheating or committing plagiarism and by complying with tutor's instructions and relevant university regulations				√

21. Topic Outline and Schedule:

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Week	Lecture	Topic	Student Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Scope & history of Microbiology	K1	Face to Face	**Microsoft Teams** , Moodle	Synchronous	Exams	See references
	1.2	Microscopy & staining	K1	Face to Face	Microsoft Teams , Moodle	Synchronous	Exams	
	1.3			Face to Face	Microsoft Teams , Moodle	Synchronous		
2	2.1	Microscopy & staining	K1	Face to Face	Microsoft Teams , Moodle	Synchronous	Exams	
	2.2	Characteristics of Prokaryotic and Eukaryotic cells	K1	Face to Face	Microsoft Teams , Moodle	Synchronous	Exams	
	2.3			Face to Face	Microsoft Teams , Moodle	Synchronous		
3	3.1	Characteristics of Prokaryotic and Eukaryotic cells	K1	Face to Face	Microsoft Teams , Moodle	Synchronous	Exams	
	3.2	Growth & culturing of bacteria	K1	Face to Face	Microsoft Teams , Moodle	Synchronous	Exams	
	3.3			Face to Face	Microsoft Teams , Moodle	Synchronous		

4	4.1	Growth & culturing of bacteria	K1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	4.2	Growth & culturing of bacteria	K1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	4.3			Face to Face		Synchro nous		
5	5.1	An introduction to taxonomy	K1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	5.2	Viruses	K1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	5.3			Face to Face	Microsoft Teams , Moodle	Synchro nous		
6	6.1	Viruses	K1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	6.2	Viruses	K1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	6.3			Face to Face	Microsoft Teams , Moodle	Synchro nous		
Self-study		Eucaryotic Microorganisms and Parasites	K1		Microsoft Teams , Moodle	Synchro nous	Exams	
7	7.1	Antimicrobial Chemotherapy	K4, S1	Face to Face	Synchronous	Synchro nous	Quiz Exam	
	7.2	Mid exam	K1, C1	Face to Face	Synchronous	Synchro nous	Exams	
	7.3			Face to Face	Synchronous	Synchro nous		

8	8.1	Antimicrobial Chemotherapy	K4, S1	Face to Face	Synchronous	Synchro nous	Exams
	8.2	Antimicrobial Chemotherapy	K4, S1	Face to Face	Synchronous	Synchro nous	Exams
	8.3			Face to Face	Synchronous	Synchro nous	
Self-study		Host microbe relationships and disease processes	K2		Microsoft Teams , Moodle	Synchro nous	Exams
9	9.1	Epidemiology and nosocomial infections	K2	Face to Face	Synchronous	Synchro nous	Exams
	9.2	Innate host defences	K3	Face to Face	Synchronous	Synchro nous	Exams
	9.3			Face to Face	Microsoft Teams , Moodle	Synchro nous	
10	10.1	Innate host defences	K3	Face to Face	Microsoft Teams, Moodle	Synchro nous	Exams
	10.2	Innate host defences	K3	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams
	10.3			Face to Face	Microsoft Teams , Moodle	Synchro nous	
11	11.1	Adaptive immunity and immunization	K3	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams
	11.2	Adaptive immunity and immunization	K3	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams
	11.3			Face to Face	Microsoft Teams , Moodle	Synchro nous	

12	12.1	Adaptive immunity and immunization	K3	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	12.2	Immunological disorders	K3	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	12.3			Face to Face	Microsoft Teams , Moodle	Synchro nous		
13	13.1	Urogenital and sexually transmitted diseases	K4, S1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	13.2	Urogenital and sexually transmitted diseases	K4, S1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	13.3			Face to Face	Microsoft Teams , Moodle	Synchro nous		
14	14.1	Diseases of the respiratory system	K4, S1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	14.2	Diseases of the respiratory system	K4, S1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	14.3			Face to Face				
15	15.1	Skin, eye wound infection	K4, S1	Face to Face	Microsoft Teams , Moodle	Synchro nous	Exams	
	15.2			Face to Face				
	15.3			Face to Face				

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22 Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Midterm exam	30	To be determined	K1, C1	18 April to 4 May 2024	On campus
Quiz	15	Antimicrobial chemotherapy	K4, S1	16 May 2024	On campus
Participation	5	All topics	K1- K4, S1	Throughout the term	On campus, Moodle, Microsoft Teams
Final exam	50	All topics	K1-K4, S1, C1	Week 16	On campus

23 Course Requirements

Students should have a computer, internet connection, account on Microsoft Teams and Moodle

24 Course Policies:

A- Attendance policies: As per the applicable University regulations

B- Absences from exams and submitting assignments on time: As per the applicable University regulations

C- Health and safety procedures: NA

D- Honesty policy regarding cheating, plagiarism, misbehavior: As per the applicable University regulations

E- Grading policy: As per the applicable school bylaw

F- Available university services that support achievement in the course: Microsoft Teams, Moodle

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25 References:

A- Required book(s), assigned reading and audio-visuals:

Jacquelyn G. Black & Laura J. Black. Microbiology: Principles and Explorations. John Wiley & Sons. 9th Edition

B- Recommended books, materials, and media:

Karen C. Carroll, Janet Butel & Stephen Morse. Jawetz Melnick & Adelbergs Medical Microbiology. McGraw-Hill Education. 27th Edition (2015)

- M.T. Madigan, J.M. Martinko, K.S. Bender, D.H. Buckley & D.A. Stahl. Brock Biology of Microorganisms. Benjamin Cummings. 14th Edition (2014)

- Gerard J. Tortora, Berdell R. Funke & Christine L. Case. Microbiology: An Introduction. Benjamin Cummings. 12th Edition (2015)

26 Additional information:

Name of Course Coordinator: Prof Randa Haddadin-Signature: ---------- Date: ----------
Head of Curriculum Committee/Department: ---------- Signature: ----------
Head of Department: ---------- Signature: ----------
Head of Curriculum Committee/Faculty: ---------- Signature: ----------
Dean: ---------- Signature: ----------