The Hashemite University

الجامعـــــــــة الهاشميـــــــــة

School of Pharmaceutical Sciences

كلية العلوم الصيدلانية

Syllabus*: Pharmaceutical Microbiology

(131701354**)**

First Semester 2023 /2024

COURSE INFORMATION	
Course Name: Pharmaceutical Microbiology (Blended education) **Semester:** First Semester **Department:** Department of pharmaceutical technology **Faculty: Pharmaceutical Sciences**	**Course Code:** 131701354 **Section:** As per semester **Core Curriculum**: 2019 Study Plan **JNQF Level:** 7
Day(s) and Time(s): According to HU courses timetable/semester **Section:** According to HU courses timetable/semester **Classroom:** As per semester	**Credit Hours:** 2 **Prerequisites**: Biochemistry (131702221)

COURSE DESCRIPTION

The course covers the basic concepts of microbiology. It provides good knowledge about cell structure (Prokaryotes and eukaryotes) and identifies the types of microorganisms and their pathogenicity.

In addition, the course concerns antimicrobial agents and their clinical uses, as well as mechanisms of bacterial resistance and how to control it.

The course discusses infections per system, explaining the type of infection, the causative mechanism, the clinical manifestations, and the best treatment.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- PowerPoint lectures and active classroom-based discussion.
- Relevant films and documentaries
- Video lectures

FACULTY INFORMATION

Name:	Dr. Rawan Abudalo
Academic Title:	Assistant Professor
Office Location:	Third Floor- office number 431
Telephone Number:	Extension: **+962(5)-399303333-3431**
Email Address:	rawana@hu.edu.jo
Office Hour:	As announced per semester

REFERENCES AND LEARNING RESOURCES

Kenneth J. Ryan. Sherris **Medical Microbiology**. McGraw-Hill Education, 7th edition (2018).

Hugo & Russell's **Pharmaceutical Microbiology**, 8 th Ed., 2014.

Tom Elliott et al. **Medical microbiology and infection lecture notes.** Wiley-Blackwell**.** 5th Edition (2011)

Course Objectives

1. Provide the students with the basic knowledge about microorganisms, their basic structure and mode of growth
2 Demonstrate a good awareness of most microorganisms and the concepts of commensal, opportunistic and pathological relationships between microbes and humans.
3. Demonstrate the basic knowledge of different types of antimicrobial therapy and their therapeutic uses
4. understand the causes of antimicrobial resistance and the proper ways to prevent resistance occurrence.
5. Be able to understand the causes of infectious diseases, their transmission, manifestations, prevention and treatment.
6. Be able to translate microbiological knowledge from this course into clinical decision-making.

COURSE INTENDED LEARNING OUTCOMES (CILOs)

A. Foundational Knowledge.

A1. Identify the general characteristics of prokaryotic and eukaryotic cells.
A2. Identify the relationship between host and microbes.
A3. Identify the selective toxicity and the spectrum of activity of antimicrobial agents.
A4. Recognize microbial resistance principles and different policies used to control this problem.

B. Essentials for Practice and Care (Skills)

B1. Discuss the common infectious diseases affecting human organ systems and identify their causative agent, transmission, clinical manifestation, and prevention.

B2. Choose the recommended antimicrobial therapy for different infectious diseases.

C. Approach to Practice Pharmacy (competencies):

C1. Ingrate skills for effectively correlating a patient's symptoms to a possible infectious disease cause.

C2. Design patient care plans by immunizations and prophylactic measures against infectious diseases.

D. Personal and Professional Development:

D.1- Demonstrate creative decision-making for infectious disease management.

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Special Needs Section:
Tel: +962-5390333-4209
Location: Students Affairs Deanship/ Department of Student Welfare Services
Email: amalomoush@hu.edu.jo
amalomoush@staff.hu.edu.jo

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

At the beginning of the lectures, students should be on time and don't leave before the end of the lecture without an accepted excuse. **If any one missed a class, it is his/her responsibility to find out about any announcements or assignments you have missed.**.

Sharing of course materials is <u>forbidden.</u> No course material including, but not limited to, course outline, lecture hand-outs, videos, exams, and assignments may be shared online or with anyone outside the class. Any suspected unauthorized sharing of materials, will be reported to the university's Legal Affairs Office. If a student violates this restriction, it could lead to student misconduct procedures.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

<u>The instructor has the right to fail the coursework or deduct marks where plagiarism is detected</u>

Cheating

Cheating, academic disconduct, fabrication and plagiarism will not be tolerated, and the university policy will be applied. Cheating policy: The participation, the commitment of cheating will lead to applying all following penalties together:

- Failing the subject, he/she cheated at
- Failing the other subjects taken in the same course
- Not allowed to register for the next semester
- The summer semester is not considered as a semester

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Course Assessment Plan						
Assessment	**Grade Weighting**	**Deadline Assessment**	**CILOs**			
			A	**B**	**C**	
First Exam	30%	~ 6th week	A			
Second Exam	30%	~ 10th week	A	B	C	D
Final Exam	40%	~ 15th /16th week	A	B	C	D

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of multiple choice based on descriptive questions, explanation questions, and case-solving problem questions.

In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with university regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Grades are not negotiable and are awarded according to the following criteria*:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION

For the pharmaceutical microbiology course, there are sections with 2 lecture periods per week. One lecture period covers 1 lecture hour (50 minutes). The course contents are described as a main topic and detailed related subtopics.

Week Number	No. of Hours	CILOs	Subject	Delivery Methods	Assessment Methods
1	**1**	A	**History of Microbiology**	Active Classroom-Based Discussions	Exams
1-2	**2**	A	**Prokaryotic vs eukaryotic cells**	PowerPoint Lectures Active Classroom-Based Discussions Relevant Videos	Exams
3-4	**3**	A	**Microorganisms overview: Bacteria, virus, fungi, protozoa**	PowerPoint Lectures Active Classroom-Based Discussions Relevant Videos	Exams
5	2	A	**Host-microbe interaction**s	PowerPoint Lectures Relevant Videos	Exams
6-7	**4**	A,B	**Antimicrobials overview**	PowerPoint Lectures Active Classroom-Based Discussions	Exams
8	**1**	A, B	**Antimicrobials resistance**	PowerPoint Lectures Active Classroom-Based Discussions	Exams
9	**2**	A, B, C,D	**GIT infection**s	PowerPoint Lectures Active Classroom-Based Discussions	Exams

10	**2**	A, B, C,D	**Respiratory tract infections**	PowerPoint Lectures Active Classroom-Based Discussions	Exams
11	**2**	A, B, C,D	**Urogenital infections**	PowerPoint Lectures Active Classroom-Based Discussions	Exams
12	**2**	A, B, C,D	**CNS infections**	PowerPoint Lectures Active Classroom-Based Discussions	Exams
13	**2**	A, B, C,D	**Eye, skin and wound infection**	PowerPoint Lectures Active Classroom-Based Discussions	Exams
14	**1**	A, B, C,D	**Biofilms**	Relevant Videos	Exams
15	**-**		**University Final Exams**		