



Syllabus*: Pharmaceutical Microbiology

(131701354)

First Semester 2021 /2022

COURSE INFORMATION

<p>Course Name: Pharmaceutical Microbiology (Face to face education)</p> <p>Semester: First Semester Department: Department of pharmaceutical technology Faculty: Pharmaceutical Sciences</p>	<p>Course Code: 131701354 Section: 1, 2 Core Curriculum: 2013 - Pharmaceutical Sciences program study Plan.</p>
<p>Day(s) and Time(s): Section 1: Sunday, Tuesday (11.00-12.00), Classroom: 206 Section 2: Monday, Wednesday (10.00-11.00), Classroom: 206</p>	<p>Credit Hours: 2 Prerequisites: Biochemistry (131702221)</p>

COURSE DESCRIPTION

The course covers the basic concepts of microbiology. It provides good knowledge about the cell structure (Prokaryotes & Eukaryotes), Identify the types of microorganisms and their pathogenicity. In addition we will concern on antimicrobial agents and their clinical uses. As well, mechanisms of bacterial resistance and how to control.

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

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Office Hours:	Sunday, Tuesday 10-11. Monday, Wednesday 11:15-12.30

REFERENCES AND LEARNING RESOURCES

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

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

Course Objectives

After completion of this course the student will:

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. Be able to understand the causes of antimicrobials 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.

Intended Learning Outcomes

A. Knowledge and Understanding:

1. To understand the basic and importance of microbiology scope.
2. Know the general characteristics of prokaryotic and eukaryotic cells.
3. Know the different groups of bacteria, viruses and fungi and understand host-microbe relation.
4. Know the definition of selective toxicity, spectrum of activity of antimicrobial agents.
5. Know the principle of microbial resistance and understands different policies used to control this problem.

B. Cognitive and Intellectual Skills:

1. Identify the different types of microorganisms
2. Identify the recommended antimicrobials therapy for different infectious diseases

C. Approach to Practice Pharmacy:

1. Provide students with practical skills for effective correlation of patient's symptoms to a possible infectious disease.
2. Recognize the uses of antimicrobials that are covered in this course.
3. Develop problem solving and critical thinking skills.

STUDENT LEARNING OUTCOMES MATRIX

An alignment matrix of the **program** ILOs of the Bachelor of Pharmacy at The Hashemite University, the **course** ILOs and knowledge, skills and competencies as mentioned in the Jordan National Qualifications Framework (JNQF)

Field according to (JNQF)	Required to achieve (according to (JNQF))	Core curriculum learning outcomes	B.Sc. Pharmacy Program ILOs	Course Objectives	Course Student ILOs					Assessment Method	
					A	B	C	D			
Knowledge	A systematic understanding of the theories, concepts, principles and circulations related to the field of learning, some of which are within the limits of the latest scientific findings	Foundational Knowledge	Learner	1-5	A.1- A.5						First, Second and final exams
	Skills	Mastering the skills and tools required to solve complex problems in a specialized field of study	Essentials for Practice and Care	Caregiver	6		B.1				
Demonstrate specialized and conceptual skills in the field of study		Manager									
Practice evaluation in planning, design, technical and/or supervisory functions related to products, services or processes		Approach to Practice and Care	Promoter								
Competencies	Management of activities and projects	Personal & Professional Development	Self-aware	6							
	Take responsibility for decision-making in work or study contexts		Leader				C1				
	Take responsibility for group work and work effectively with peer guidance	Pharmaceutical Product Expert	Innovator				C2				
	Transfer and apply diagnostic and creative skills in a range of contexts		Professional				C3				

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 forbidden. 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.

The instructor has the right to fail the coursework or deduct marks where plagiarism is detected

Cheating

Cheating, academic misconduct, 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

Assessment	Grade Weighting	Deadline Assessment
First Exam	30%	Week (6- 7) 7 th -18 th Nov 2021

Second Exam	30%	Week (11-12) 5 th -16 th Dec 2021
Final Exam	40%	Week (15-16) 15 th -27 th Jan 2022

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	-

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

1. History of Microbiology	Week 1
2. Prokaryotic vs eukaryotic cells	Week 2
3. Microorganisms overview Bacteria, virus, fungi, protozoa	Week 3
4. Host-microbe interaction	Week 4
5. Antimicrobial agents overview	Week 4,5/6
6. Bacterial resistance	Week 6/7
7. Biofilms	Week 7
8. GIT infection	Week 8
9. Respiratory tract infection	Week 9
10. Eye, skin and wound infection	Week 10
11. Urogenital infection	Week 11
12. CNS infection	Week 12
13. Nosocomial infection	Week 12/ 13
University Exams	<u>Week 15-16</u>