



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	General Microbiology
2	Course number	0304251
3	Credit hours (theory, practical)	3, 1
	Contact hours (theory, practical)	Sunday-Thursday
4	Prerequisites/co-requisites	0303101
5	Program title	Bachelor of Medical Laboratory Sciences
6	Program code	0308
7	Awarding institution	University of Jordan
8	Faculty	Science
9	Department	Medical Laboratory Sciences
10	Level of course	Second Year
11	Year of study and semester (s)	First Summer Semester 2016/2017
12	Final Qualification	B.Sc. in Medical Laboratory Sciences
13	Other department (s) involved in teaching the course	none
14	Language of Instruction	English
15	Date of production/revision	2017

16. Course Coordinator:

Ibrahim Mosleh, PhD
 Office: 214 Biology building
 Phone number: 22228
 Email: i.mosleh@ju.edu.jo

Office hours: Sunday, Wednesday, Thursday (9-10) and by appointment

17. Other instructors:

None

18. Course Description:

This course is designed to present the microbes with emphasis on those that affect human. It is an introduction to general microbiology for Medical laboratory sciences students who are interested in developing laboratory skills in microbiology. The scope of this course includes the basic concepts of microbiology including the structure, metabolism, genetics, growth, control, cultivation, isolation, classification and identification of the major groups of bacteria. The course includes an introduction to viruses, protozoa, fungi, and algae. The nature of microbe-host interaction, infection, and control are concluding topics.

19. Course aims and outcomes:**A- Aims:**

This course will enable students to explore and gain further understanding of general microbiology through the introduction of different forms of microbes.

Provide students with a broad base of knowledge regarding general microbiology and its interaction with the human host.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

1. have the basic knowledge of classification of different microorganisms like viruses, fungi, parasites, and bacteria with emphasis on bacteria.
2. illustrate the structure, replication processes, pathogenicity and genetics of bacteria
3. demonstrate skills and knowledge required to perform laboratory experiments in bacteriology and mycology
4. prepare the bacterial smear and perform the bacterial count and use of the staining techniques, culture procedures, and biochemical reactions
5. know the sterilization methods and use of antiseptics, disinfectants, antibacterial agents and susceptibility testing to antibiotics.
6. choose the appropriate methods for the examination of microbiology specimens for definitive identification of bacteria.
7. Report and interpret the results of the tested bacteria.

20. Topic Outline and Schedule:

<u>Topics to be covered</u>	
*Theory	
Topic	
Historical background and classification of microorganisms	
Classification, morphology, and structure of prokaryotes	
Physiology, metabolism, and growth of bacteria	
First Hour Exam	
Genetics of bacteria: gene structure, replication, and expression	
Microbial genetics: mechanisms of genetic variation	
Bacterial taxonomy and taxa	
Second Hour Exam	
Host-microbe interaction	
Microbial control: physical and chemical methods	
Control of hospital acquired infections	
* Practical	
Introduction to microbiology laboratory: safety rules, the light microscope, and microscopy of living and simple stained bacteria	
Differential staining: Gram stain, spore stain, and negative stain	
Aseptic transfer techniques of cultivation	
Bacterial culture media Media preparation and sterilization (open lab)	
Bacterial count: total counts	
Bacterial count: viable counts	
Isolation of pure culture	
Isolation of lactic acid bacteria	
Microbial physiology	
Conditions affecting growth of bacteria I	

Conditions affecting growth of bacteria II	
Antiseptics and disinfectants	
Antimicrobial agents: methods of susceptibility testing	

21. Teaching Methods and Assignments:

<p>Development of ILOs is promoted through the following <u>teaching and learning methods</u>:</p> <p>Interactive lecture using data show and overhead projector Office hour discussions Quizzes Lab reports</p>
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22. Evaluation Methods and Course Requirements:

<p>Opportunities to demonstrate achievement of the ILOs are provided through the following <u>assessment methods and requirements</u>:</p> <p>Short answer questions during the lectures Quizzes Exams</p>
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23. Course Policies:

A- Attendance policies: Regular class attendance is expected, attendance by seating number.	
B- Absences from exams and handing in assignments on time: Reporting a valid reason of absence is accepted.	
C- Health and safety procedures: All students should comply with the university health and safety procedures	
D- Honesty policy regarding cheating, plagiarism, misbehaviour: All students should comply with the university Honesty policy regarding cheating, plagiarism, misbehaviour	
E- Grading policy: Depends on average	
First Hour Exam	15%
Second Hour Exam	15%
Lab Final Exam	18%
Reports, quizzes, and evaluation	12%
Final Exam	40%
F-	

24. Required equipment:

Available university services that support achievement in the course:

Data Show Projector, internet access

Microscopes

Posters of representing different types of microbes

25. References:

Prescott's Microbiology by Joanne Willey, Linda Sherwood, Christopher J. Woolverton **9th edition. 2014. McGraw-Hill.**

Brock Biology of Microorganisms. By Michael T. Madigan, John M. Martinko, Kelly S. Bender, Daniel H. Buckley, David A. Stahl, Thomas Brock. **14th edition. 2015. Pearson, Prentice Hall.**

26. Additional information:

Name of Course Coordinator: Dr. Ibrahim Mosleh Signature: ----- Date:

10/09/2016

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

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Head of Department
Assistant Dean for Quality

Assurance

Course File