

Course E-Syllabus

1	Course title	Practical Microbiology
2	Course number	5501332
3	Credit hours	1 hour
	Contact hours (theory, practical)	3 hours practical
4	Prerequisites/corequisites	5501331
5	Program title	Bachelor degree in Biological Sciences
6	Program code	550
7	Awarding institution	University of Jordan-Aqaba Branch
8	School	Basic and Marine Sciences
9	Department	Marine Biology
10	Level of course	Fourth Year
11	Year of study and semester (s)	First Semester 2020/2021
12	Final Qualification	B.Sc.
13	Other department (s) involved in teaching the course	none
14	Language of Instruction	English
15	Teaching methodology	<input checked="" type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input checked="" type="checkbox"/> Zoom <input checked="" type="checkbox"/> Others: Teaching lab
17	Date of production/revision	20/09/2020

18 Course Coordinator:

Dr. Zeinab H. Arabeyyat
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19 Other instructors:

N/A

20 Course Description:

As stated in the approved study plan.

Laboratory exercises will expose students to techniques that microbial researchers use on a daily basis, and students will isolate and culture bacteria from a variety of samples, and identify dominant groups.

21 Course aims and outcomes:

A- Aims:

Upon successful completion of this course, students will be able to apply techniques that microbial researchers use on a daily basis, and students will isolate and culture marine bacteria from a variety of samples, identify dominant groups, and use applied molecular biology tools to analyze bacterial communities.

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

Knowledge and understanding.

At the end of this module, students will be able to:

- Define laboratory safety and aseptic techniques.
- Measuring total count using haemocytometer.
- Applying staining methods.
- Preparing media and sterilizing methods.
- Being able to make streak plates.
- Being able to make spread plate.
- Being able to differentiate sensitivity of antibiotics.
- Able to write a laboratory scientific report.

Cognitive skills (thinking and analysis).

- Students will be able to acquire, articulate, retain and apply specialized language and knowledge relevant to microbiology.
- Students will acquire and demonstrate competency in laboratory safety and in routine and specialized microbiological laboratory skills applicable to microbiological research, including accurately reporting observations and analysis.
- Students will communicate scientific concepts, experimental results and analytical arguments clearly and concisely, both verbally and in writing.
- Students will demonstrate engagement in the Microbiology discipline through involvement in research or internship activities.

22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
4	1.1	How to write a scientific report	Moodle	Lab reports	Textbooks
5 & 6	1.2	Microscopic techniques Observing Bacteria and Fungi Fixed Slides	Moodle and Zoom	Oral questions and Students attitude during the lecture.	Lab manual

		Staining Microscopic Specimens			
		Microbiological culture media preparation			
7	1.3 & 1.4	Six-hours laboratory experiments		Students attitude inside the lab. Working sheets.	
8	1.5	Midterm Exam			
9	1.6	Isolation of pure cultures	Moodle and Zoom	Oral questions and Students attitude during the lecture.	Lab manual
10	1.7	Aseptic technique and viable cell count	Moodle and Zoom		
11	1.8	Antibiotics and Bacterial Growth	Moodle and Zoom		
12	1.9 & 1.10	Six-hours laboratory experiments		Students attitude inside the lab. Laboratory reports.	
Final Exam					

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

23 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Worksheets & Students attitude inside the lab	10	All topics	4	Moodle
Midterm Exam	20	Microscopic techniques, Observing Bacteria and Fungi Fixed Slides, Staining Microscopic Specimens, and Microbiological culture media preparation	8	LMSsystem
Laboratory Reports	30	Antibiotics and Bacterial Growth	12	Moodle
Final Exam	40	All topics	14	-

24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

Computer and internet connection are required for watching lectures, reading the lab sheets and reviewing related eBooks, answering and submitting worksheets inside the lab.

25 Course Policies:

A- Attendance policies:

- Attendance is compulsory for all labs. Absence from lab shall not exceed 15%. Students who exceed two or more unexcused absences from lab can be legally dropped from the course.
- The only valid excuses for missing an exam are: death in the family, illness, or accident. In this case you must provide evidence of some kind and you must report me within 3 days.
- Any act of cheating, or academic misconduct is subject to penalties. The minimum penalty for any students caught cheating will receive a zero on that test.

B- Absences from exams and handing in assignments on time:

The only valid excuses for missing an exam are death in the family, illness, or accident. In this case, student must provide evidence of some kind and must report me within 3 days.

C- Health and safety procedures:

Students who miss the exam due to illness or other excuse must notify me within the first week after the exam, so make up arrangements can be made.

D- Honesty policy regarding cheating, plagiarism, misbehavior:

- Students are not expected to talk loudly while the lecturer is lecturing,
- After two warning, the Student will be automatically removed from the lab or the online lecture.
- Any act of cheating, or academic misconduct is subject to penalties.
- The minimum penalty for any students caught cheating will receive a zero on that test.

E- Grading policy:

Type	Grading
Worksheets & Students attitude inside the lab:	10%
Midterm Exam:	20%
Laboratory Reports:	30%
Final Exam:	40%
Total	100%

Exams: The examinations consist of any combination of multiple choice, and true or false questions.

F- Available university services that support achievement in the course:


Library sources are available and internet.

26 References:

<p>A- Required book(s), assigned reading and audio-visuals:</p> <ul style="list-style-type: none">- Lab manual/protocols (required, will be provided as PDF files on E-Learning).- Other readings (Will be provided as PDF files on E-Learning). <p>B- Recommended books, materials and media: Selected videos from YouTube, Electronic online-free books, and Moodle.</p>

27 Additional information:

N/A

Name of Course Coordinator: **Dr. Zeinab H. Arabeyyat** Signature:  Date: **20/09/2020**

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

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