



**Jordan University of Science and Technology**  
**Faculty of Applied Medical Sciences**  
**Department of Medical Laboratory Sciences**  
**Clinical Microbiology II (Lm332)-Course Syllabus**

<b>Course Information</b>	
<b>Course Title</b>	Clinical Microbiology II
<b>Course Code</b>	Lm 332
<b>Prerequisites</b>	B231
<b>Course Website</b>	
<b>Course Coordinator</b>	Dr. Suhaila Al-Shboul
<b>Office Location</b>	M5, Rm 20
<b>Office Phone #</b>	Ex. 23770
<b>Office Hours</b>	Monday and Wednesday: 1-2 p.m, or by appointment
<b>E-mail</b>	sashboul@just.edu.jo
<b>Lab Supervisor</b>	Mr. Ra'ed Obaidat
<b>Course Description</b>	
<p>Classroom lectures and Lab procedures studying the fundamental concepts and the different methods and techniques applied for the diagnosis of pathogenic microorganisms isolated from different clinical specimens; the agents of the infectious diseases, methods of collection and handling of different pathological specimens, laboratory detection and identification of the agents of the infectious diseases by laboratory methods (Morphological, biological, and biochemical characteristics of bacteria commonly isolated from clinical specimens), determining the appropriate method for treatment, and processing clinical specimens for optimal recovery of infectious agents.</p> <p>Through lectures and Labs, students will become familiar with major groups of medically important bacteria, selection of appropriate diagnostic laboratory specimens and the technical procedures used for recovery and identification.</p>	

<b>Textbook</b>	
<b>Title</b>	Bailey and Scott's Diagnostic Microbiology
<b>Author(s)</b>	Forbes, Sahm, Weissfeld
<b>Publisher</b>	Mosby Elsevier
<b>Year</b>	2007
<b>Edition</b>	12th edition
<b>Book Website</b>	<a href="http://evolve.elsevier.com/Forbes">http://evolve.elsevier.com/Forbes</a>
<b>Other references</b>	The book website above will lead the students to links specific for diagnostic Microbiology JUST Library

Assessment		
Assessment	Expected Due Date	Percentage
First lecture Exam	6 <sup>th</sup> Week	22 %
Second Lecture Exam	12 <sup>th</sup> Week	23 %
Final Lecture Exam	To be announced (assigned by registration department)	30 %
First Lab Exam	To be announced	15%
Final Lab Exam	To be announced	10%
Attendance	Absolute for all students	

Course Objectives	Percentage
1. Identify bacterial pathogens by means of key characteristics of metabolism, morphology, and pathogenesis.	10%
2. Recommend optimal specimen type and collection procedures for those specimens, given data in a case history.	10%
3. Select optimal methods for the isolation and identification of common pathogens found in clinical specimens.	10%
4. Apply appropriate laboratory techniques to the identification of pathogenic microorganisms isolated from clinical specimens.	15%
5. Demonstrate knowledge of the disease processes associated with specific etiologic agents, associating clinical findings with the agents of common diseases.	5%
6. Discuss the mechanism of action of various antibiotics and antimicrobial agents.	5%
7. Perform and interpret antimicrobial susceptibility testing procedures.	15%
8. Practice safe laboratory procedures for the handling of biohazardous agents.	15%
9. Practice quality control and quality assurance according to contemporary clinical laboratory standards.	15%

Teaching & Learning Methods
<ul style="list-style-type: none"> <li>• Power point lectures</li> <li>• Laboratory experiments , Unknowns</li> </ul> <p><b>Teaching duration:</b></p> <ul style="list-style-type: none"> <li>• 3 hours/ week -lectures</li> <li>• Daily follow-up in the lab</li> </ul>

Please Fill Table Below

Learning Outcomes: Upon successful completion of this course, students will be able to	
Related Objective(s)	Reference(s)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Useful Resources
Internet-links to Diagnostic Microbiology
Jordan University of Science and Technology Library

Course Content			
Week	Title of the Lecture	Reference	Lecturer
1	Cultivation, isolation, and identification of microorganisms		Dr. Suhaila
2	Selection, collection, and transport of specimens		Dr. Suhaila
			Dr. Suhaila
3	Microorganisms encountered in blood		Dr. Suhaila
			Dr. Suhaila
4	Microorganisms encountered in cerebrospinal fluid		Dr. Suhaila
			Dr. Suhaila
5	Microorganisms encountered in respiratory tract		Dr. Suhaila
			Dr. Suhaila
6	Microorganisms encountered in the Gastrointestinal tract		Dr. Suhaila
	<b>1st EXAM</b>		Dr. Suhaila
7	Microorganisms encountered in urinary tract		Dr. Suhaila
			Dr. Suhaila

8	Genital and sexually transmitted pathogens		Dr. Suhaila
			Dr. Suhaila
9	Microorganisms encountered in wounds, abscesses, skin, and soft tissues		Dr. Suhaila
			Dr. Suhaila
10	Anaerobic pathogens		Dr. Suhaila
	Microorganisms encountered in bone marrow, and related fluids		Dr. Suhaila
11			Dr. Suhaila
	Antimicrobial testing and antimicrobial effectiveness		Dr. Suhaila
12	<b>2nd EXAM</b>		Dr. Suhaila
			Dr. Suhaila
13	Diagnostic aspects of fungal infections		Dr. Suhaila
			Dr. Suhaila
14	New and non-traditional methods of microbial detection and identification-1		Dr. Suhaila
			Dr. Suhaila
15	New and non-traditional methods of microbial detection and identification-2		Dr. Suhaila
			Dr. Suhaila
16	New and non-traditional methods of microbial detection and identification-2		Dr. Suhaila
			Dr. Suhaila
	<i>FINAL EXAM</i>		

#### Additional Notes

**Attendance policy:** For lectures atleast 90% of sessions. Lab attendance is mandatory. Students who fail to meet the course attendance requirements will be administratively withdrawn from class per the JUST Attendance Policy.

**Grades:**

Grades are recorded to one decimal place. The semester grade percentage will be determined by rounding up numbers  $\geq 0.5$  to the next whole number (e.g., 78.6% = 79% or 78.4% = 78%).

**Make-up exam policy:**

Missed exams caused by absences for medical or personal emergencies that are approved may be made up with full credit for the exam. If a student misses an exam without an approved excused absence, he/she may not take a make-up exam. The format of make-up exams is at the discretion of the professor and may be multiple-

choice, essay, short-answer, oral, etc. **Make-up exams may not be eligible for extra-credit points and/or scaling. (must get an approval from the Dean of Applied Medical Sciences)**

Note: Examination(s) are based on ALL materials covered and discussed in class and any material assigned from the required textbook (this will be discussed in class).

**Classroom Etiquette:**

1. Arrive at class 5-10 minutes early. Settle yourself and turn off your cell phone. Class will begin promptly on time.
2. Please be PRESENT – be attentive and contribute to the class discussion when appropriate. Avoid watching and playing with your cell phone, etc.
3. Stay for the entire class - avoid packing up before the class ends.
4. You may bring sugar-free beverages (water) into the classroom but do not bring and eat food and don't leave your garbage after the class is over.

**Examination Hygiene:**

1. Neither faculty proctors nor testing proctors present during an examination may be asked to interpret questions or give definitions. If there is an error identified on a question, a correction will be announced and written on the board at the front of the room. It is your responsibility to make the appropriate correction on the examination.
2. All backpacks, computer cases, briefcases, and purses must be in an area designated by the faculty.
3. No food or beverages allowed in the exam room
4. No cell phones, calculators, or other electronic items.
5. Please dress appropriately for possible variations in room temperature.

<b>Week</b>	<b>Lab Content –Lm 3322</b>
<b>1</b>	Laboratory safety procedures and policies
<b>2</b>	Staining techniques, and microscopic procedures
<b>3</b>	Media preparation and culture techniques, isolation procedures, purification techniques, and identification
<b>4</b>	Specimen collection, transport, and culture techniques
<b>5</b>	Microorganisms encountered in blood
<b>6</b>	Microorganisms encountered in cerebrospinal fluid Microorganisms encountered in respiratory tract
<b>7</b>	Microorganisms encountered in respiratory tract; nasal swabs, throat swabs, sputum, deep tracheal aspirates, etc.
<b>8</b>	<b>Unknown I</b>
<b>9</b>	Microorganisms encountered in GIT infections

<b>10</b>	Microorganisms encountered in urinary tract and Genital and sexually transmitted pathogens
<b>11</b>	Microorganisms encountered in wounds, abscesses, skin, and soft tissues
<b>12</b>	Microorganisms encountered in bone marrow, and related fluids, including anaerobic infections
<b>13</b>	<b>Unknown II</b>
<b>14</b>	Antimicrobial testing and antimicrobial effectiveness New and non-traditional methods of microbial detection and identification
<b>15</b>	Diagnostic aspects of fungal infections
<b>16</b>	<b>Final Lab exam</b>