



Course Specifications

Course Title:	Clinical Bacteriology
Course Code:	373322-3
Program:	Bachelor's in Clinical Laboratory Sciences (Level-7)
Department:	Clinical Laboratory Sciences
College:	Applied Medical Sciences
Institution:	Taif University



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A. Course Identification

1. Credit hours: 3 hours
2. Course type a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/> b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: Level 6/Third Year
4. Pre-requisites for this course (if any): Basic of Medical Microbiology(373228-3)
5. Co-requisites for this course (if any): None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	4 hours /week= 60 hours/semester	100%
2	Blended	None	0%
3	E-learning	None	0%
4	Correspondence	None	0%
5	Other	None	0%

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	None
4	Others (specify)	None
	Total	60
Other Learning Hours*		
1	Study	45
2	Assignments	5
3	Library	None
4	Projects/Research Essays/Theses	None
5	Others(specify)	None
	Total	50

*The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course covers studying of the common bacterial human pathogens regarding: their classification, pathogenicity, morphology, cultural characters and the different methods for laboratory diagnosis of the infections caused by them. The course also covers studying of infections of the different body systems regarding: the possible causative pathogens, methods of collection and transport of clinical samples to diagnose these infections as well as methods of laboratory examination of these samples.

2. Course Main Objective

The students will gain adequate knowledge about different classes of bacteria that infect human regarding their pathogenicity, laboratory characteristics and different methods for laboratory diagnosis of infections caused by these bacteria. They will also be able to select and interpret the different diagnostic tests for bacterial infections and perform the different laboratory tests for diagnosing bacterial infections in a safe and effective manner both independently and within a team work.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Recognize the pathogenicity, virulence factors and mode of transmission of the different common human bacterial pathogens.	K1
1.2	Identify the classification, morphological features, cultural characters and biochemical reactions of the different common bacterial pathogens as well as different methods for laboratory diagnosis of infections caused by these bacteria.	K2
1.3	Identify the methods of collection, transport and laboratory examination of different clinical specimens.	K2
2	Skills :	
2.1	Select the proper laboratory diagnostic tests for the different suspected human bacterial infections.	S1
2.2	Interpret correctly the results of the various laboratory bacterial diagnostic tests and evaluate these results in correlation with the clinical condition of the patient.	S2
3	Competence:	
3.1	Perform the different laboratory tests for diagnosing bacterial infections in a safe and effective manner	C1

C (a) Course Content (Theory)

No	List of Topics	Contact
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		Hours
1	-Staphylococci	2
2	- Streptococci & Enterococci	3
3	- Neisseria - Corynebacterium and Listeria.	3
4	- Bacillus - Clostridia	2
5	- Enterobacteriaceae - Pseudomonas -Gram-negative bacilli related to the enteric tract (Vibrio, Campylobacter, Helicobacter)	4
6	- Gram-negative bacilli related to the respiratory tract (Haemophilus, Bordetella, Legionella) - Zoonotic Gram- negative bacilli (Brucella, Yersinia, Pasteurella)	2
7	- Anaerobic Gram-negative bacilli (Bacteroides) - Mycoplasma - Chlamydia	2
8	- Mycobacteria	2
9	- Spirochetes	2
10	- Upper and lower respiratory tract infections - Wound and soft tissue infections	2
11	- Urogenital infections - Urinary tract infections	2
12	- GIT infection - Meningitis	2
13	- Septicemia and bacteremia	2
Total		30

(b) Course Content (Practical)

No	List of Topics	Contact Hours
1	Laboratory diagnosis of infections caused by Staphylococci, Streptococci and Enterococci	4
2	Laboratory diagnosis of infections caused by Neisseria, Corynebacterium and Listeria	2
3	Laboratory diagnosis of infections caused by Bacillus and Clostridia	2
4	Laboratory diagnosis of infections caused by Enterobacteriaceae, Pseudomonas, Vibrio, Campylobacter and Helicobacter	4
5	Laboratory diagnosis of infections caused by Haemophilus, Bordetella, Legionella, Brucella and Yersinia	2
6	Laboratory diagnosis of infections caused by Anaerobic Gram-negative bacilli	2
7	Laboratory diagnosis of infections caused by Mycobacteria	2
8	Introduction to specimen collection and management	2
9	Examination of pus	2
10	Examination of upper and lower respiratory tract specimens	2
11	Examination of urogenital specimens	2

	Examination of urine	
12	Examination of stool Examination of cerebrospinal fluid	2
13	Blood culture Antibiotic sensitivity tests	2
Total		30

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Recognize the pathogenicity, virulence factors and mode of transmission of the different common human bacterial pathogens.	- Lectures	- Exams
1.2	Identify the classification, morphological features, cultural characters and biochemical reactions of the different common bacterial pathogens as well as different methods for laboratory diagnosis of infections caused by these bacteria.	- Lectures - Practical sessions	- Exams - Lab reports
1.3	Identify the methods of collection, transport and laboratory examination of different clinical specimens.	- Lectures	- Exams
2.0	Skills		
2.1	Select the proper laboratory diagnostic tests for the different suspected human bacterial infections.	- Lectures - Practical sessions	- Exams - Assignments. - Lab reports
2.2	Interpret correctly the results of the various laboratory bacterial diagnostic tests and evaluate these results in correlation with the clinical condition of the patient.	- Lectures - Practical sessions - Problem based learning	- Exams - OSPE
3.0	Competence		
3.1	Perform the different laboratory tests for diagnosing bacterial infections in a safe and effective manner	- Practical sessions	- Lab reports - Exam

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-term Exam	8 th Week	15%
2	Activity	Throughout the semester	5%
3	Practical Report	Throughout the semester	10%
4	Final Practical Exam	16 th Week	20%
5	Final Exam	17 th /18 th Week	50%
6	Total		100%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

- Course instructors are available for individual consultation in their free time. They are usually full-time permanent members present on-campus from 8:00 am to 2:30 pm on all working days. Appointments can be made in person with the instructor through email etc. Days and time availability of each instructor are posted on their doors. Course instructors provide a range of academic and course management advice including course planning and its progression.
- Each student at the department of Clinical Laboratory Sciences has an academic adviser who is available for individual consultation and guidance. Appointments can be made in person with the instructor through email etc. Days and time availability of each adviser are posted on their doors. The academic adviser can provide support with time management, exam preparation, clarification of subject requirements, feedback on performance and dealing with personal issues as well.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	<ul style="list-style-type: none"> • Medical Microbiology. Jawetz, Melnick, & Adelberg, Latest edition. • Review of Medical Microbiology & Immunology. Warren Levinson, Latest edition. • Bailey and Scott's Diagnostic Microbiology. Baron and Tenover, Latest Edition. • Practical Medical Microbiology. Mackie and McCartney, Latest edition.
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Essential References Materials	None
Electronic Materials	Websites, Search engines (Saudi Digital Library, PubMed, Google Scholar)
Other Learning Materials	<ul style="list-style-type: none"> • Journal of Bacteriology • Journal of Bacteriology and Parasitology • Journal of clinical microbiology • Journal of Medical microbiology • Journal of microbiology and biotechnology

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms and Laboratories
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show, Blackboard and A/V
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"> • Biological safety cabinet. • Autoclave. • Hot air oven. • Incubator. • Different bacteriological media for isolation of the different types of bacteria. • Bacterial stains (Gram stain and Ziehl-Nelsen). • Reagents & kits to perform the biochemical reactions for identification of different types of bacteria. • Antibiotic discs & Muller-Hinton agar for performing antibiotic sensitivity tests.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student's feedback on effectiveness of teaching and quality of courses.	Students	Indirect: Questionnaire Survey at the end of each semester.
Alignment map of course ILOs with that of program ILOs.	Development and accreditation committee	Direct: Student's Performance
Availability of learning resources, facilities and equipments related to each	Students and faculty	Indirect: Questionnaire Survey at the end of each semester.

Evaluation Areas/Issues	Evaluators	Evaluation Methods
course.		
Evaluation of teaching	Peer evaluators	Direct: Peer evaluation
Standard of student achievement	Examination Committee	Direct: Students grades
Periodical review of course effectiveness and planning for its improvement.	Teaching staff/ Development and accreditation committee	Indirect: Review by Department Committee

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Department meeting
Reference No.	Meeting No.10
Date	10-9-1440

