



Course Specifications

Course Title:	Basics of Medical Microbiology
Course Code:	373228-3
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 4/Second Year
4. Pre-requisites for this course (if any): None
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)	6
	Total	66
Other Learning Hours*		
1	Study	37
2	Assignments	4
3	Library	None
4	Projects/Research Essays/Theses	None
5	Others (specify)	None
	Total	41

* 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

This course covers the general principles of microbiology including classification of different groups of microorganisms and morphology of each group. In addition, a brief introduction to the pathogenicity of each group of microorganisms is also included. At the end of this course the students should be able to understand and differentiate between microorganism shapes, requirements, virulence factors and their pathogenicity mechanisms.

2. Course Main Objective

On completion of this course, the students should know different groups of microorganisms according to morphology and classification, and their roles in pathogenicity. They should also be able to distinguish between different microorganisms using laboratory techniques.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge:	
1.1	Recognize general properties, structure and classification of the different groups of microorganisms, their requirements and pathogenicity.	K1
1.2	Describe mode of action of the antimicrobial agents and the resistance mechanisms of microorganisms to them.	K1
1.3	Recall laboratory diagnosis of microbial infections, methods of sterilization and disinfection.	K2
2	Skills :	
2.1	Develop skills to differentiate between bacteria, viruses and fungi.	S1
2.2	Interpret the acquired information and correlate it with other branches of microbiology.	S1
3	Competence:	
3.1	Demonstrate superior manual dexterity in performing various laboratory procedures in safe and effective manner.	C1

C.

(a) Course Content (Theory)

No	List of Topics	Contact Hours
1	Introduction to Bacteriology	2 hours
2	Structure of Bacterial Cell	2 hours
3	Bacterial Reproduction, Physiology & Metabolism	2 hours
4	Bacterial Genetics	2 hours
5	Bacteriophage	2 hours
6	Genetic Recombination	2 hours

7	Classification of Medically Important Bacteria	2 hours
8	Pathogenesis of Bacterial Infections	2 hours
9	Sterilization & Disinfection	2 hours
10	Antimicrobial Chemotherapy	2 hours
11	Introduction to Virology	2 hours
12	Classification of Medical Importance Viruses	2 hours
13	Introduction to Mycology	2 hours
14	Classification of Medical Importance Fungi	2 hours
Total		28

(b) Course Content (Practical)

No	List of Topics	Contact Hours
1	Introduction	2 hours
2	Laboratory Safety Measures	2 hours
3	Microscopy	2 hours
4	Introduction to Diagnosis of Bacterial Infections	2 hours
5	Bacterial Stains	2 hours
6	Bacterial Stains	2 hours
7	Bacterial Culture Media	2 hours
8	Bacterial Culture Media	2 hours
9	Midterm Exam	2 hours
10	Antibiotic Sensitivity Testing	2 hours
11	Antibiotic Sensitivity Testing	2 hours
12	Sterilization & Disinfection	2 hours
13	Sterilization & Disinfection	2 hours
14	Introduction to Diagnosis of Viral Infection	2 hours
15	Introduction to Diagnosis of Fungal Infection	2 hours
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 general properties, structure and classification of the different groups of microorganisms, their requirements and pathogenicity.	- Lectures	Exams
1.2	Describe mode of action of the antimicrobial agents and the resistance mechanisms of microorganisms to them.	- Lectures	Exams
1.3	Recall laboratory diagnosis of microbial infections, methods of sterilization and disinfection.	- Lectures - Practical Sessions	Exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.0	Skills		
2.1	Develop skills to differentiate between bacteria, viruses and fungi.	- Lectures - Practical Sessions	- Exams - Lab Reports - Assignments
2.2	Interpret the acquired information and correlate it with other branches of microbiology.	- Lectures - Practical Sessions	- Exams - Lab Reports
3.0	Competence		
3.1	Demonstrate superior manual dexterity in performing various laboratory procedures in safe and effective manner.	- Lectures - Practical Sessions	- Exams - Lab Reports

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	14 th Week	20%
5	Final Exam	17th/ 18th Week	50%
	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	Lippincott's Illustrated Reviews: Microbiology. Last edition. Review of Medical Microbiology & Immunology. Warren Levinson. Latest edition. Practical Medical Microbiology. Mackie and McCartney. Latest edition.
Essential References Materials	None
Electronic Materials	Search engines
Other Learning Materials	None

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)	Microbiology Lab equipments including: Autoclave, Oven, Loops and Bunsen. In addition to, Staining Materials such as Gram Stain and Iodine.

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 course.	Students and faculty	Indirect: Questionnaire Survey at the end of each semester.
Evaluation of teaching	Peer evaluators	Direct: Peer evaluation
Standard of student achievement	Examination Committee	Direct: Students grades

Evaluation Areas/Issues	Evaluators	Evaluation Methods
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 Council
Reference No.	Meeting No.10
Date	10-9-1440

