هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	**Medical Microbiology**
Course Code:	**2014114-3**
Program:	**Bachelor in Microbiology**
Department:	**Biology Department**
College:	**College of Sciences**
Institution:	**Taif University**

Table of Contents

A. Course Identification

1. Credit hours: 3hr
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: 10th Level / 4th year
4. Pre-requisites for this course (if any)**:** Soil Microbiology/ 2013214-3
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**	6 hrs/Week	100%
2	**Blended**	-	-
3	**E-learning**	-	-
4	**Distance learning**	-	-
5	**Other**	-	-

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	-
4	**Others** (specify)	-
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description:

This course investigates the medical microbial pathogen including Bacteria, viruses, fungi and parasitic protozoa that cause human disease. And key examples of infectious diseases relevant to the global population including emerging diseases, and disease epidemiology. Methods for identifying pathogens - Microbiology- related practical skills including safe handling of microbes in the laboratory – Medical experimental design and data interpretation.

2. Course Main Objective:

This course aims to enable graduates to enter medical field for both the science and career in microbiological laboratory or as researchers, with an appropriate level of scientific knowledge about disease-causing microorganisms and the infectious diseases that they cause in the community and their epidemiology to be achievable to practices the methods for diagnosing, preventing, and treating infections.

3. Course Learning Outcomes

CLOs	Aligned PLOs

	CLOs	Aligned PLOs
1	**Knowledge and Understanding:**	
1.1	Describe the pathogenesis and virulence aspects of medically important microorganisms.	K2
2	**Skills:**	
2.1	Differentiate between pathogenic microorganisms causing human diseases related to epidemic phenomena.	S1
2.2	Interpret results of microbiological, serological and molecular tests for diagnosis patient samples.	S2
2.3	Perform experiments for safe handling, transporting and storage conditions of the medical samples for microbiological examination.	S3
3	**Values:**	
3.1	Demonstrate commitment to learn and work independently and effectively.	V1

C. Course Content

No	List of Topics	Contact Hours
1	Part 1: Introduction to medical microbiology and definitions.	3L+3P
2	Part 2: Emerging infectious diseases and Epidemiology.	3L+3P
3	Part 3: Brief summaries of medically important organisms.	3L+3P
4	Part 4: infectious diseases and immunology.	3L+3P
5	Part 5: Host-Pathogen interaction.	3L+3P
6	Part 6: Virulence factors in pathogen (bacteria and viruses) .	3L+3P
7	Part 7: infectious disease transmission routes: Air born, Food and waterborne disease, contact, blood and animals (arthropods).	3L+3P
8	Part 8: Systemic bacteriology: over view of the major pathogens (characteristic, transmission, pathogenicity and epidemiology)	3L+3P
9	Part 9: Clinical mycology and parasitology: local & systemic infections.	3L+3P
10	Part 10: Clinical virology: (systemic infections).	3L+3P
Total		30L+30P

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 and Understanding:**		
1.1	Describe the pathogenesis and virulence aspects of medically important microorganisms.	Lecture Cooperative learning	Paper-based exams
2.0	**Skills:**		
2.1	Differentiate between pathogenic microorganisms causing human diseases related to epidemic phenomena.	Lecture Mind mapping	Paper-based exams
2.2	Interpret results of microbiological, serological and molecular tests for	Cooperative learning Brain storming	Paper-based exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	diagnosis patient samples.		
2.3	Perform experiments for safe handling, transporting and storage conditions of the medical samples for microbiological examination.	Cooperative learning	Practical reports Practical exam
3.0	**Values:**		
3.1	Demonstrate commitment to learn and work independently and effectively.	Open discussion Small group activities	Practical exam Assignments

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments and activities: 1- Written Assignment 2- Power-point presentation	Variable	10
2	Midterm Exam	5th	20
3	Periodic Exam	7th	10
4	Practical Reports	Continuous	15
5	Final Practical Exam	11th	5
6	Final Exam	12th	40

***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:

6 hours per week (as defined in the teaching schedule of the faculty member) for academic advice and consultations.
Teaching staff is also available using Blackboard web site and Taif University "Edugate" System.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	- Patrick R. Murray; Michael A. Pfaller; Kenneth; S. Rosenthal. Medical Microbiology-2015: 8th edition, and 9th edition-2021-e.book. Elsevier, Philadelphia.
Essential References Materials	- Edward J. Bottone; An. Atlas of the Clinical Microbiology of Infectious Diseases, Volumes 1&2: Bacterial agent and Viral, Fungal, Parasitic Agents. 1st and 2nd Edition. Informa Healthcare.UK, 2008 - 2012.
Electronic Materials	Blackboard website Website of Saudi digital Library
Other Learning Materials	Digital programs and professional software

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	- Classrooms for 40 students\lecture. - Laboratory for 20 students\ lab activity
Technology Resources (AV, data show, Smart Board, software, etc.)	-Data Show projectors. -Computer Portable PowerPoint presentations to special
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	-Autoclave - Incubators - Micropipettes and its tips - Petri dishes - Disinfectants - Culture media - Antibiotics and antiseptics

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Indirect
Quality of learning resources	Peer Reviewer Students	Direct Indirect
Extent of achieving the course learning outcomes	Peer Reviewer Students	Direct Indirect

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	**Biology Department**
Reference No.	**Committee number 14 - Academic Year 1442-1443H**
Date	**22\5\2022G – 21\10\1443H**

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