هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Microbial Diagnosis**
Course Code:	**2014214-3**
Program:	**Bachelor of Microbiology**
Department:	**Biology Department**
College:	**College of Sciences**
Institution:	**Taif University**

Table of Contents

A. Course Identification

1. Credit hours: 3 hr
2. Course type **a.** University College | Department √ Others **b.** Required √ Elective
3. Level/year at which this course is offered: 11th level – 4rd year
4. Pre-requisites for this course (if any)**: Food Microbiology / 2014111-3**
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:

The course focuses on various aspects including: Techniques used in specimen collection, methods of transporting and preserving until microbial diagnosis - Diagnosis of diseases by nucleic acid and genetics. Cellular methods - Methods for extracting nucleic acids from medical samples - Molecular laboratory methods for diagnosing diseases - Examples of diagnostics microbial diseases such as viral, bacterial, fungal, and parasitic diseases.

2. Course Main Objective:

The main objective of the course is to give the students a broad knowledge of Techniques used in specimen collection, methods of transporting and preserving until microbial diagnosis - Diagnosis of diseases by nucleic acid and genetics. Cellular methods - Methods for extracting nucleic acids from medical samples - Molecular laboratory methods for diagnosing diseases - Examples of diagnostics microbial diseases such as viral, bacterial, fungal, and parasitic diseases.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding:**	
1.1	Recognize Techniques used in specimen collection, methods of transporting and preserving until microbial diagnosis	K1
1.2	Differentiate between various types of microorganisms.	K2
2	**Skills:**	
2.1	Explain methods of microbial diagnosis.	S1
2.2	Recognize the Molecular laboratory methods for diagnosing diseases - Examples of diagnostics microbial diseases such as viral, bacterial, fungal, and parasitic diseases.	S3
3	**Values:**	
3.1	Gain personal and leadership skills needed to achieve individual or group assignments.	V1

C. Course Content

No	List of Topics	Contact Hours
1	**Unit 1:** Introduction of the Microbial diagnosis.	3L + 3P
2	Methods of transmission of infection.	3L + 3P
3	Types of infection and their manifestations.	3L + 3P
4	**Unit 2:** Diagnosis of infectious diseases	3L + 3P
5	Microbiologic examination	3L + 3P
6	**Unit 3:** Microbial diagnosis techniques	3L + 3P
7	Diagnosis of Chlamydiae, viruses, bacteria infections	3L + 3P
8	**Unit 4:** Serodiagnosis	3L + 3P
9	Fungi as human Pathogens	3L + 3P
10	Diagnosis of yeasts infection	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	Recognize Techniques used in specimen collection, methods of transporting and preserving until microbial diagnosis	Interactive learning	Paper-based exams
1.2	Differentiate between various types of microorganisms.	Open discussion Mind Mapping	Paper-based exams
2.0	**Skills:**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.1	Explain methods of microbial diagnosis	Small group activities	Paper-based exams Practical reports
2.2	Recognize the Molecular laboratory methods for diagnosing diseases - Examples of diagnostics microbial diseases such as viral, bacterial, fungal, and parasitic diseases..	Small group activities Interactive learning	Practical exam Assignments
3.0	**Values:**		
3.1	Gain personal and leadership skills needed to achieve individual or group assignments.	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 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	Mahon, C., Lehman, D. and Manuselis, G. 2021. extbook of Diagnostic Microbiology 5th Edition. ISBN: 9781455750207, Elsevier Science. Page: 1096 Pitt, S.J. (2018). Clinical Microbiology for Diagnostic Laboratory Scientists 1st Edition. ISBN: 978-1-118-74585-4. Wiley-Blackwell. Page: 296.
Essential References Materials	Llewelyn, H., and Ang H.A. (2014). Oxford Handbook of Clinical Diagnosis. ISBN 13: 978-0199679867Oxford University Press. Page: 688
Electronic Materials	Blackboard website Website of Saudi digital Library

Other Learning Materials	Computer-based programs and professional software.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	▪ Classroom (capacity not more than 40 students) for 2 h/week. ▪ Microbiology Lab (capacity not more than 20 students) for 3 h/week.
Technology Resources (AV, data show, Smart Board, software, etc.)	▪ Data Show projectors, smart blackboard Computer Portable PowerPoint presentations to special lectures.
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 ▪ Microscopes ▪ Culture media ▪ Samples of different sources

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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