Course Outline of Medical Microbiology الاحياء الدقيقة الطبية

1. Instructor's Information

Instructor's / Coordinator's Name:	أ.د. يعقوب حسن يعقوب
Office Hours:	Mon, Wed: 11 – 12:30
Office and Phone:	Ibn Rushd - 2130
Email:	jjacob@aabu.edu.jo
Research and Teaching Assistant / Supervisor / Technical (if any):	-

2. Course Description

This course is interested in studying the relationship between microorganisms and human. Several topics are covered in this course like the history of the science, normal microbial flora of human body, modes of transmission. Other topics include microbial pathogenicity, infective diseases, antimicrobial agents, antimicrobial resistance and antimicrobial susceptibility testing. Several groups and genera that are medically important are discussed in more details during this course in respect to their systematics, virulence factors, toxins, and diagnosis methods.

3. Course Information

Course No.: 404338	Course Title: **Medical Microbiology**	Level: 3
Course Type: **Theoretical** / Practical	Prerequisite / co-requisite: 404330	Class Time: Mon, Wed: 11 – 12:30
Academic Year:2020 / 2021	Semester: 1st	Study hours: 2

4. Course Objectives:

a)	- Be familiar with the historical roots of medical microbiology
b)	- Study and compare different types of medically important microbes
c)	- Study the normal microbial flora of human body and the modes of disease transmission
d)	- Study the microbial pathogenicity, infective diseases, antimicrobial agents, antimicrobial resistance and antimicrobial susceptibility testing
e)	- Learn about groups and genera that are medically important are discussed in more details during this course in respect to their systematics, virulence factors, toxins, and diagnosis methods.

5. Learning Outcomes
(Knowledge, Skills, and Competencies)

Upon successful completion of the course, the students will be able to:

1. Understand the role of microbial flora in human health.
2. Know how microorganisms cause diseases and how they are transmitted.
3. Describe how microbial diseases are treated and prevented.
4. Identify the major important pathogenic groups of microbes.

6. Course Content

Week	Topic
i.	Introduction, History of Medical Microbiology
ii.	Normal Microbial Flora of Human Body (Human Microbiome)
iii.	Modes of Transmission
iv.	Microbial Pathogenicity
v.	Infective Diseases
vi.	Anti microbial Agents, Antimicrobial Resistance and Antimicrobial Susceptibility Testing
vii.	*Staphylococcus*
viii.	*Streptococcus, Enterococcus*
ix.	*Pneumococcus, Neisseria, Moraxella*
x.	*Corynebacterium,* and *Bacillus*
xi.	Anaerobes (*Clostridium* and Non-sporing Anaerobes), *Mycobacteria*
xii.	Enterobacteriaceae
xiii.	*Vibrio, Aeromonas*, *Pseudomonas* and other Non-fermenters
xiv.	*Haemophilus* and HACEK Group
xv.	*Bordetella*, *Brucella*, Spirochetes
xvi.	Rickettsiae, *Coxiella*, *Bartonella, Chlamydiae, Mycoplasma*

7. Teaching and Learning Strategies and Evaluation Methods

No.	Learning Outcomes	Teaching Strategies	Learning Activities	Evaluation /Measurement Method (Exam/ presentations/ discussion/ assignments)
1	Understand the role of microbial flora in human health.	Direct Instruction, PowerPoint presentations	Discussion, Assignments	Quizzes, exams, direct discussion
2	Know how microorganisms cause diseases and how they are transmitted.	Direct Instruction, PowerPoint presentations	Discussion	Quizzes, exams, direct discussion
3	Describe how microbial diseases are treated and prevented.	Direct Instruction, PowerPoint presentations	Discussion, Assignments	Quizzes, exams, direct discussion
4	Identify the major important pathogenic groups of microbes	Direct	Discussion	Quizzes, exams, direct

		Instruction, PowerPoint presentations		discussion

8. Assessment

Methods Used	**Assessment Time**	**Distribution of grades**
1- semester work (report, assignments, attendance)	During semester	10
2- First Exam	Seventh week	20
3- Second Exam	Twelfth week	20
4- Final Exam	Week of the final exams	50

9. Textbook

Main Reference	Microbiology: an introduction
Author	Tortora et al
Publisher	Pearson

Year	2019
Edition	15
Textbook Website	https://www.amazon.com/Brock-Biology-Microorganisms-Michael-Madigan/dp/0134261925

10. Extra References (books and research published in periodicals or websites)

1-	Microbiology by Prescott, Harley, and Klein
2-	Burton's Microbiology by Engelkirk and Burton
3-	Microbiology: An Introduction by Tortora