TISHK INTERNATIONAL UNIVERSITY
FACULTY OF APPLIED SCIENCE
Department of MEDICAL ANALYSIS,
-2022 Spring
Course Information for MA 310 MICROBIAL DIAGNOSIS

Course Name:	MICROBIAL DIAGNOSIS

Code	Regular Semester	Theoretical	Practical	Credits	ECTS
MA 310	6	2	2	3	5

Name of Lecturer(s)-Academic Title:	Muzhda Saber - MSc
Teaching Assistant:	Sana
Course Language:	English
Course Type:	Main
Office Hours	2
Contact Email:	muzhda.haydar@tiu.edu.iq Tel:07507725801
Teacher's academic profile:	MSc
Course Objectives:	The purpose of diagnostic microbiology is to confirm the suspicion of infectious disease and to identify the etiologic agent, often by bacterial or fungal culture or virus isolation. When the pathologist suspects infectious disease, microbiologic assays are selected based on the differential diagnosis established from the history, postmortem examination, or histologic evaluation, and on the availability of validated tests. Staying abreast of emerging diseases and rapidly developing diagnostic methods requires continuing education. The clinical microbiology laboratory is a key resource in the investigation of a suspected outbreak.
Course Description (Course overview):	With nearly 1400 known pathogenic microbes consisting of bacteria, fungi, viruses and parasites, an ability to differentiate and distinguish microbes is absolutely essential. Efficacious microbial treatment depends on the variety of microbe. This course aims to provide students with the tools necessary to differentiate and diagnose microbes with accuracy.

COURSE CONTENT

Week	Hour	Date	Topic
1	2	6-10/2/2022	Introduction to Microbial Diagnosis
2	2	13-17/2/2022	Prokaryotes and Eukaryotes
3	2	20-24/2/2022	Bacterial Cell structure
4	2	27/2-3/3/2022	Structure outside cell wall
5	2	6-10/3/2022	Pathogenesis
6	2	27-31/3/2022	Antimicrobial drugs: Mechanism of action
7	2	3-7/4/2022	Midterm Exam
8	2	10-14/4/2022	Midterm Exam
9	2	17-21/4/2022	Blood Stream infection
10	2	24-28/4/2022	Blood Stream infection
11	2	8-12/5/2022	Blood Stream infection
12	2	15-19/5/2022	Urinary tract infection I
13	2	22-26/5/2022	Urinary tract infection II
14	2	29/5-2/6/2022	Gastrointestinal tract infection

15	2	5-9/6/2022	Final Exam
16	2	12-16/6/2022	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

1	General Introduction of Microbial diagnosis
2	Microbiota and Human disease
3	Pathogenesis
4	Antimicrobial chemotherapy
5	Blood Culture and its importance in microbial diagnosis

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)

	Program Learning Outcomes	**Cont.**
1	Evaluate clinical laboratory data by interpreting laboratory results and relating the data to various disease states.	P
2	apply principles of evidence-based medicine to determine clinical diagnoses.	P
3	apply the basic principles of gross and microscopic anatomy, physiology, biochemistry, immunology, microbiology/virology.	P
4	formulate and implement acceptable treatment modalities to various disease states.	P
5	use technology effectively in the delivery of instruction, assessment, and professional development.	P
6	exhibit essential employability qualities by demonstrating laboratory safety, analyzing laboratory results, and displaying professional conduct.	P
7	exhibit organizational skills, accountability, and ethical behavior.	P
8	apply skills needed in operating laboratory equipment for testing, assessing quality assurance for lab equipment, and adhering to standard safety practices in the laboratory environment.	P
9	apply problem-solving and decision-making skills.	P
10	apply and promote health policies and regulatory standards in the field career.	P
11	develop research in the field of medical analysis using qualitative and quantitative methods.	P

Prerequisites (Course Reading List and References):	-Jawetz, Melnick, & Adelberg's Medical Microbiology. 28th edition. McGraw-Hill Education. -Review of Medical Microbiology & Immunology, 15th edition. McGraw-Hill Education. -Warren Levinson, Medical Microbiology and Immunology.16th edution.
Student's obligation (Special Requirements):	Lecture Notes.attendance
Course Book/Textbook:	1-Koneman'sColor Atlas and Textbook of Diagnostic Microbiology.7th Edition. Jones & Bartlett Learning. 2-Goering, R., Dockrell, H., Zuckerman, M., & Chiodini, P. L. (2018). Mims' Medical Microbiology E-Book: With STUDENT CONSULT Online Access (6th ed.). Elsevier. 3- Ray, C., & Ryan, K. J. (2003). Sherris Medical Microbiology : An Introduction to Infectious Diseases (4th ed.). McGraw-Hill Medical. 4- FRCPath, P. M. M. B. R., & Irving, W. L. (2018). Medical Microbiology: A Guide to Microbial Infections: Pathogenesis, Immunity, Laboratory Investigation and Control (19th ed.). Elsevier. 5- M.D., M. G. T., M.D., T. W., & M.D., S. M. C. (2016). Clinical Microbiology Made Ridiculously Simple (6th ed.). MedMaster.
Other Course Materials/References:	1- Lectures Note, Presentation, 2- Poster about Microorganisms (Culturing, serological Techniques and Sains). 3- http://commtechlab.msu.edu/sites/dlc-me/ 4- https://www.dsmz.de/ 5- https://bmcmicrobiol.biomedcentral.com/
Teaching Methods (Forms of Teaching):	Lectures, Presentation, Seminar, , ,

COURSE EVALUATION CRITERIA

Method	**Quantity**	**Percentage (%)**
Attendance	1	5
Quiz	2	5
Midterm Exam	1	30
Presentation	1	10
Laboratory	1	5
Final Exam	1	40
Total		**100**

Examinations: Essay Questions, True-False, Fill in the Blanks, Multiple Choices, Short Answers, Matching, , ,

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours	16	2	32
Practical Hours	16	2	16
Final Exam	1	6	6
Attendance	1	6	6
Quiz	2	4	8
Midterm Exam	1		0
Presentation	1		0
Laboratory	1		0
Total Workload			**68**
ECTS Credit (Total workload/25)			**2.72**

Peer review

Signature:	Signature:	Signature:
Name:	Name:	Name:
Lecturer	Head of Department	Dean