



Mutah University
Academic Development & Quality Assurance Center

COURSE PLAN SPECIFICATION FORM

Course: Microbiology

Faculty: Faculty of Medicine

Department: Microbiology and Pathology

Academic Year: 2020-2021

A. Course Specification & General Information:

• University: Mutah University	• Course Title: Microbiology
• College: Medicine College	• Code: 154202
• Department: Microbiology and Pathology	• Credit Hours: 3 hours
• Semester & Academic Year: 2020-2021	• Instructor: Department Teaching Staff
• Office Hours:	• Course Level: Second year

B. Objectives and Expected Learning Outcomes

- ❖ Medical Microbiology course is taught to the students by the whole team in the Medical Microbiology department through lectures, practical, seminars and discussions.
- ❖ The course provides students with the general knowledge about microorganisms, their development, habitats, isolation, identification, nutrition, control and its relation to environment and antibiotics. Additionally, the student will study the specific agents that cause human infectious diseases, which belong to five major groups of organisms bacteria, helminthes, protozoa, viruses & fungi, their mechanisms in causing the diseases (pathogenesis), diagnosis & treatment.
- ❖ Students will have practical training on laboratory safety, infection prevention, bacterial isolation and identification from different body samples. Students will also be exposed to concepts and methodologies of bacterial antibiotic sensitivity tests and other biochemical and Molecular tests for bacterial and parasitic detection.

C. Course objectives

- ❖ The department teaches the theoretical and scientific microorganisms, viruses and parasites for medical students and includes:
- ❖ Description of infrastructure and installation of genetic bacteria, viruses, fungi and parasites
- ❖ Indicate how microorganisms interact with the body's immune system
- ❖ Identification of pathogenic microorganisms in the human disease and methods of diagnosis, treatment and prevention.

At the end of the course students may be achieved:

- ❖ Knowledge of germs of medical interest.
- ❖ Understand how to take medical samples for analysis.
- ❖ Gain the ability to visualize laboratory results and the link between them and the different stages of the disease
- ❖ To study the effect of antibiotics on bacteria.
- ❖ Knowledge of diagnosis and methods of prevention and treatment of various bacterial diseases.

C. Course Plan Distribution & Learning Resources

Topics to be Covered	
Lectures	
	<ul style="list-style-type: none">- Introduction to bacteriology- Bacterial morphology & structure- Bacterial physiology & metabolism- Bacterial Genetics- Identification and classification of bacteria- Antimicrobial chemotherapy- Sterilization and disinfection- Principles of infection control- General virology<ul style="list-style-type: none">(1): structure, classification and pathogenesis(2): Viral Replication- General virology (3): Methods for diagnosis and treatment.- General virology (4): introduction to oncoviruses.- General mycology Definition & morphology & pathogenesis- Introduction to parasitology and Sources of parasitic infections- The effect of parasites on the host Pathogenesis and Diagnosis of parasitic infections- Classification of parasites of medical importance and Introduction to trematodes, H. heterophyes

- Fasciolahepatica& fasciolopsis buski
- Introduction to cestodes and D. latum
- Taenia (T.solium& saginata)

Practical part

- Safety procedures in microbiology
- Microscopes
- Staining (simple& gram stains)
- Hand washing and sterilization
- Types of culture media
- Cultivation of bacteria
- Bacterial biochemical reactions
- Antibacterial sensitivity test
- Laboratory diagnosis of parasitic infections.
- Slide demonstration of
- E. histolytica, E. coli. and
- Toxoplasma gondii
- Slide demonstration of trematodes
- Slide demonstration of cestodes
- Slide demonstration of nematodes

Learning resources

- 1- Medical bacteriology& immunology, examination and board review sixth editions. Lewir AND Jawetz,E.
- 2- Microbiology in clinical practice. Shason. Recent edition.
- 3- Medical parasitology. Ichhpjani&Rajesh Bahatia. Second edition

Recommended Websites:

- 1- World Health Organization www.who.int
- 2- The American Society for Microbiology: www.asm.org.
- 3- Centers for Disease Control: www.cdc.gov.
Medline search: www.ncbi.nlm.nih.gov/PubMed/medline.html

D. Teaching strategies to be used to develop that knowledge

No	Teaching strategies
1	Lectures.
2	Labs

E. Methods of assessment

Week	Assessment task	Proportion of Final Assessment
6	First exam	20%
12	Second exam	20%
14	Practical	20%
16	Final exam.	40%
Total		(100%)

F. General Instructions:

No	Additional Notes, office hours, attendance policy, etc....
1	All university roles are adopted strictly by the department