Mutah University

Academic Development &Quality Assurance Center

COURSE PLAN SPECIFICATION FORM

Course: Immunology

Faculty: Faculty of Medicine

Department: Microbiology and Pathology

Academic Year: 2020-2021

A. Course Specification & General Information:

• **University: Mutah University**	• **Course Title: Immunology**
• **College: Medicine College**	• **Code: 1504203**
• **Department: Microbiology and Pathology**	• **Credit Hours: 2 hours**
• **Semester& Academic Year: 2020-2021**	• **Instructor: Department Teaching Staff**
• **Office Hours:**	• **Course Level: Second year**

B. Course description and Expected Learning Outcomes

The aim of this course is to study the basic concepts of immunology, natural and acquired immunity, and different immunological responses. To be familiar with the Antigens, antibodies, practical use of immunology techniques, study the immune disease and immune related diseases. Practical and theoretical study of immunological procedures used in the diagnosis of various diseases and transplantation of organs and diagnosis of tumor and treatment. Practical training in immunology will introduce both classical and contemporary immunological assay procedures within the context of interpreting laboratory science experiments and demonstration fundamental immunological principles.

C. Course objectives

- ❖ Student recognizes the innate and acquired immune mechanisms.
- ❖ Student recognizes the lymphatic system and the immune cells.
- ❖ Student will differentiate between antigens and antibodies
- ❖ To explain how the immune occurrence against microbes.
- ❖ To characterize the occurrence resulting from immune deficiency, or linked, such as allergies and autoimmune diseases and AIDS.
- ❖ To study organ transplants, cancer, vaccines and serums
- ❖ To learn on the immune system diseases.
- ❖ To study the immune diseases resulting from infection
- ❖ To be able to work and reading the serological reactions mechanism
- ❖ To link immune information with reality and its applications ϖ

C. Course Plan Distribution& Learning Resources

	Topics to be Covered
	Lectures
	- Introduction to immunity. - Lymphoid organs and cells of immune system - Innate and Acquired immunity - Antigen structure &characteristics - Antibody structure and functions - Immunoglobulin molecule superfamily members - Biology of T& B cells In immune response - Biology of T cells, TCR, MHC & Antigen presentation - Complement system-its role in immune response - Cytokines & its role in immune response - LAB; biosafty, - withdrawing of venous blood - Leukocyte count--phagocytosis - T-Cell mediated & humoral immune response. - Anitgen antibody binding &reactions - Hypersensitivity reactions I & II - Hypersensitivity reactions III&IV - Mechanisms of protective immunity - Applications of Antigen Antibody reactions in serological diagnosis - Antigen antibody reaction : agglutination & precipitation - Immunodeficiency diseases I - Immunodeficiency diseases II - Transplantation - Autoimmunity - Autoimmune diseases - Tumour immunology - Complement fixation test. - Immunoflurescent technique - ELISA &RIA - Immunization & Immunoprophylaxis - Immune evasion mechanisms I - Immune evasion mechanisms II

Learning resources

- **Pracitical Immunology,4thed.Frank C Hay.Blackwell Science.Library of Congress.2012**
- **Basic methods in antibody production.A Pratical Handbook.Gary C Howard.CRC press,2006**
- **Basic immunology.** Function and disorder of immune response. Abul K Abbas & Andrew H .
- **Immunology Basics.Dr T.V.Rao. M D .** structure and theory immune system organs and cells;
- **High-Yield** Immunology. Arthur G. Jonhnson and Benjamini L. Clarke
- **Immunology**. David Male, Jonathan Brostoff, David B. Roth, Ivan Riott.

- **Immunology note book,** Ian Todd
- **Immunology. Lippincott's illustrated reviews**

Recommended websites:

1- Medline search: www.ncbi.nh.gov/PubMed/medline.html .
2- Microbiology and Immunology On-line: pathmicro.med.sc.edu/book/welcome.htm

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	25%
12	Second exam	25%
14	Practical	10%
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