



University of Karbala
College of Pharmacy
Branch of Clinical Laboratory Sciences

Title of the course: Immunology

Name of lecturer: Dr. Hassan Ali Al-Saadi, Dr. Hadi R.

Date:

Level: 4th Class

Credit hours: Theory 2 hours **Lab:** 1 hour

	Title of Lecture	Lecturer
1.	Introduction of Immunology: Define of Immunology, Relationship with other sciences.	Dr.Hadi R.
2.	Innate immunity, Anatomical barriers, Physiological barriers, phagocytosis, Inflammatory response, Complement in innate immunity (Opsonization)	Dr.Hadi R.
3.	Acquired immunity: A. Natural :Primary immune response, Secondary immune response. B. Artificial immunity: Vaccination, Live vaccine, Killed vaccine, Other novel vaccine, Adjuvants.	Dr.Hadi R.
4.	Cells and Tissues of the immune system: 1. Primary immune organs, Structure and functions. 2. Secondary immune organs, Structure and Functions 3. Blood cell typing. 4. Types of phagocytic cells.	Dr.Hadi R.
5.	Antigens: Chemical nature of antigen and other characters way of indmestration, Immunogen, Hapten, Antigenic determinant, MHC & HLA Antigen Locus.	Dr.Hadi R.
6.	Antibodies: 1. General characteristic of the antibody. 2. General structer of antibody. 3. Type of antibody class and subclass.	Dr.Hadi R.
7.	Ag & Abs reactions. Strength of Antigen-Antibody Interactions Cross-Reactivity, Precipitation Reactions, Agglutination Reactions, Radioimmunoassay, Enzyme-Linked Immunosorbent Assay, Western Blotting, Immunoprecipitation, Immunofluorescence, Flow Cytometry and Fluorescence	Dr.Hassan A.
8.	Complement : Classical pathway ,Alternative pathway	Dr.Hassan A.
9.	Vaccination program. Active and Passive Immunization, Designing Vaccines for Active Immunization, Whole-Organism Vaccines	Dr.Hassan A.
10.	Hypersensitivity Type I , Type II , Type III , Type IV	Dr.Hassan A.
11.	Cancer and immune system. Imune response against Tumors	Dr.Hassan A.
12.	Immunodeficiency and Immunologic tolerance Congenital immunodeficiencies, Acquired immunodeficiency Syndrome (AIDS)	Dr.Hassan A.

