

In the name of God



Isfahan University
of Medical Sciences

Isfahan Medical School

second semester lesson plan

The First semester of the academic year 1405-1404

Level: Basic Sciences in medical school	Major: Medical												
Course Title: Medical Immunology (Theoretical)	Department: Immunology												
Course Code: 1324019	University Professor or Faculty member: Dr. Rezaie, Dr.Eskandari, Dr. Esmael												
Class No. :	Credit Hours: 2 hrs. per week												
Prerequisite:	Credit Units: Theoretical (.....Theo and Prac)												
Availability of Professor: 03137929060	E-mail: rezaie@mui.ac.ir												
The General Purpose of the Lesson: achievement of knowledge about the basic principles of the human immune system, including immune cells and molecules, the interactions and mechanisms involved in immune system.													
Learning Outcomes (Objectives): Assessment Methods: multiple choice questions in mid and final exam, (The Assessment Methods that will be Used to Test Students Learning outcomes & the Skills & Competencies Stated in learning Outcomes)													
<table><tr><th>Assessment</th><th>Score From 20</th></tr><tr><td>Mid Exam (Theory)</td><td>40</td></tr><tr><td>Final Exam</td><td>40</td></tr><tr><td>Practical Exam</td><td>20</td></tr><tr><td>Assignments:</td><td></td></tr><tr><td>Total Marks</td><td>100</td></tr></table>		Assessment	Score From 20	Mid Exam (Theory)	40	Final Exam	40	Practical Exam	20	Assignments:		Total Marks	100
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Main References (Text Books): Cellular and Molecular Immunology Authors: Abul Abbas Andrew Lichtman Shiv Pillai Imprint: Elsevier, 9 th or 10th Edition, Language: English References for More Reading: Medical Immunology Arad Publications Shiraz School of Medical Sciences (in Persian)													
Student's Responsibilities: Follow the class subjects regularly, answer the written questions and homework													
Attendance Rules: based on University regulation Department's Attitudes													
Mid Exam Date:	Final Exam Date:												

	Main Topic	Teacher's Name	Time	Date	Method of Presentation
1	History of Immunology and Overview of Immune responses: Definition of Immunology, a brief immunological history, The adaptive immune response(Humoral immunityand Cell-mediated immunity) The Cells of the Immune System: Mast Cells, Basophils, Eosinophils, Lymphocytes, Natural Killer Cells, Innate Lymphoid Cells	Dr. Eskandari	10-12	9/27/2026	Making speech and explain the prepared related slides
2	Primary and Secondary Tissues of the Immune System (Bone marrow, Thymus, lymph node, Spleen,.etc.) and Leukocyte Circulation	Dr. Eskandari	10-12	10/4/2026	Like last section
3	Antigens, Immunogenes, Definition of different Types of Antigens, T Dependent and T Independent Antigens	Dr.Rezaei	10-12	10/11/2026	
4	Antibodies: General Features of Antibody Structure, Function, and Synthesis , assembly, and expression of Antibody Different Types, and Biological Function of Antibodies (IgM, IgG, IgE, IgA, IgD)	Dr.Rezaei	10-12	10/18/2026	
5	Complement System : Structure, and Function	Dr.Rezaei	10-12	10/25/2026	
6	Innate Immunity. Components and Functions	Dr.Rezaei	10-12	11/1/2026	
7	Inflammation, Chemotaxis, Phagocytosis and Intracellular Killing Process	Dr.Rezaei	10-12	11/8/2026	
8	Major Histocompatibility Complex (MHC). Genetic organization and Molecular structure,	Dr. Esmael	10-12	11/15/2026	
9	Antigen Presentation to T Lymphocytes and the Functions of Major Histocompatibility Complex Molecules(Exocytose and endocytic pathways)	Dr. Esmael	10-12	11/22/2026	

10	Structure and function of B lymphocytes, B cells development and differentiation to plasma cells	Dr. Esmael	10-12	11/29/2026	
11	Structure and function of T lymphocytes - developmental stages and the expression of specific receptors including: the differentiation of CD4 + and CD8 + T cells and memory T cells	Dr. Esmael	10-12	12/6/2026	
12	Cytokines (part I) Their classification - Their immunological properties include inflammatory and anti-inflammatory cytokines Cytokines (part II) hematopoietic cytokines- innate immune cytokines and chemokines	Dr. Eskandari	10-12	12/13/2026	
13	Immunologic Tolerance Mechanisms and Their Role In Disease	Dr. Eskandari	10-12	12/20/2026	
	End of semester and exam				

	Preparation of the Students before the Beginning of the Class	University Professor	Cours e Topics	Practical Classes Tuesday -12-14
	Ag-antibody interactions, basic and principles of serology laboratory tests		Ab-Ag reaction	The First Week
2	Performing C-reactive Protein (CRP) test and knowing its uses and interpretation - Introduction to Erythrocyte sedimentation rate (ESR) test		CRP, ESR	The Second Week
3	Performing direct and indirect ABO grouping tests. Rh-du test and knowledge of its application in blood transfusion		ABO, Rh	The Third Week
4	Perform direct and indirect Coombs tests and their use, including the diagnosis of drug allergies and crossmatch tests		cross-match tests	The Forth Week
5	Performing ASO and interpretation and application		ASO	The Fifth Week
6	Ag-Ab demonstration device including Flow-cytometry system and Elisa performance for Ag and ab assay		Flow-cytometry, Elisa	The sixth Week