





Isfahan University
of Medical Sciences

Isfahan Medical School
second semester lesson plan

The First semester of the academic year 1403-1404

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| <p>Semester : 2</p>  | <p>Academic Year :1403-1404</p>  |
| <p>Level: Basic Sciences in medical school</p> | <p>Major: Medical</p> |
| <p>Course Title: Medical Immunology (Theoretical)</p> | <p>Department: Immunology</p> |
| <p>Course Code: 1113243131</p> | <p>University Professor or Faculty member: Dr. Andalib وDr.Eskandari وDr.Rezaie</p> |
| <p>Class No. :Tadbir class-room 1</p> | <p>Credit Hours: 2 hrs. per week</p> |
| <p>Prerequisite:</p> | <p>Credit Units: Theoretical (.....Theo and Prac)</p> |
| <p>Availability of Professor: +989133134128, whatsapp group</p> | <p>Tel: +983137929031</p> |
| <p>Office Address: Immunology Department, Isfahan Medical School</p> | <p>E-mail: andalib@med.mui.ac.ir</p> |
| <p>Name of Student Representative and Cell phone Number:</p> | <p>Number of Students :</p> |
| <p>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.</p> | |
| <p>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)</p> | |

| Assessment | Score From 20 |
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| Mid Exam (Theory) | 40 |
| Final Exam | 40 |
| Practical Exam | 20 |
| Assignments: | |
| Total Marks | 100 |

Main References (Text Books): Cellular and Molecular Immunology

Authors: Abul Abbas Andrew Lichtman Shiv Pillai

Imprint: Elsevier, 9th 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:

| NO of Session | Main Topic | Teacher's Name | Place & Time | Date | Method of Presentation |
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| one | History of Immunology and Overview of Immune responses: Definition of | Dr.Eskandari | 10-12 am Every saturday | 1403/11/13 | Making speech and explain the |

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| | Immunology, a brief immunological history, The adaptive immune response (Humoral immunity and Cell-mediated immunity) | | Solimani class-room | | prepared related slides |
| two | The Cells of the Immune System: Mast Cells, Basophils, Eosinophils, Lymphocytes, Natural Killer Cells, Innate Lymphoid Cells | Dr. Eskandari | 10-12 am Solimani class-room | 1403/11/13 | Making speech and explain the prepared related slides |
| three | Primary and Secondary Tissues of the Immune System (Bone marrow, Thymus, lymph node, Spleen, etc.) and Leukocyte Circulation | Dr. Eskandari | 10-12 am Solimani class-room | 1403/11/20 | Making speech and explain the prepared related slides |
| 4 | Innate Immunity. Components and Functions | Dr. Eskandari | 10-12 am Solimani class-room | 1403/11/27 | Making speech and explain the prepared related slides |
| 5 | Phagocytosis and Intracellular Killing Process | Dr. Eskandari | 10-12 am Solimani class-room | 1403/11/27 | Making speech and explain the prepared related slides |
| 6 | Antibodies: General Features of Antibody Structure, Function, and Synthesis, assembly, and expression of Antibody | Dr. Andalib | 10-12 am Solimani class-room | 1403/12/04 | Making speech and explain the prepared related slides |
| 7 | Different Types, and Biological Function of Antibodies (IgM, IgG, IgE, IgA, IgD) | Dr. Andalib | 10-12 am Solimani class-room | 1403/12/04 | Making speech and explain the prepared related slides |
| 8 | Antigens, Immunogenes, Definition of different Types of Antigens, T Dependent and T | Dr. Andalib I | 10-12 am Solimani class-room | 1403/12/11 | Making speech and explain the prepared |

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| | Independent Antigens | | | | related slides |
| 9 | Major Histocompatibility Complex (MHC). Genetic organization and Molecular structure, | Dr. Andalib | 10-12 am Solimani class-room | 1403/12/18 | Making speech and explain the prepared related slides |
| 10 | Antigen Presentation to T Lymphocytes and the Functions of Major Histocompatibility Complex Molecules(Exocytose and endocytic pathways) | Dr. Andalib | 10-12 am Solimani class-room | 1403/12/18 | Making speech and explain the prepared related slides |
| 11 | Structure and function of B lymphocytes, B cells development and differentiation to plasma cells | Dr. Andalib | 10-12 am Solimani class-room | 1403/12/25 | Making speech and explain the prepared related slides |
| 12 | 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. Andalib | 10-12 am Solimani class-room | 1404/01/17 | Making speech and explain the prepared related slides |
| 13 | Relationship between macrophage, T cell, B cell, cytokines and antigen processing | Dr. Andalib | 10-12 am Solimani class-room | 1404/01/17 | Making speech and explain the prepared related slides |
| | Midterm exam | 12.01 PM | 1404/02/31 | Midterm exam | |
| 14 | Cytokines (part I) Their classification - Their immunological properties include inflammatory and anti-inflammatory cytokines | Dr. Andalib | 10-12 am Solimani class-room | 1404/01/24 | Making speech and explain the prepared related slides |
| 15 | Cytokines (part II) hematopoietic cytokines- innate immune cytokines | Dr. Andalib | 10-12 am Solimani class-room | 1404/01/24 | Making speech and explain the |

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| | and chemokines | | | | prepared related slides |
| 16 | Complement System : Structure, and Function | Dr. Rezaei | 10-12 am Solimani class-room | 1404/01/31 | Making speech and explain the prepared related slides |
| 17 | Activation and Regulation of Complement System and Their Pathways | Dr. Rezaei | 10-12 am Solimani class-room | 1404/01/31 | Making speech and explain the prepared related slides |
| 18 | Humoral Immune Response: Effector Mechanisms of Humoral Immunity | Dr. Rezaie | 10-12 am Tadbir class-room | 1404/02/7 | Making speech and explain the prepared related slides |
| 19 | Cell- Mediated Immune Response: Effector Mechanisms of Cell Immunity | Dr.Rezaie | 10-12 am Solimani class-room | 1404/02/07 | Making speech and explain the prepared related slides |
| 20 | Immunologic Tolerance Mechanisms and Their Role In Disease | Dr.Rezaie | 10-12 am Solimani class-room | 1404/02/14 | Making speech and explain the prepared related slides |
| 21 | Autoimmunity Disease and Their Mechanisms | Dr.Rezaie | 10-12 am Solimani class-room | 1404/02/21 | Making speech and explain the prepared related slides |
| 22 | Basic Immunological responses against Viruses | Dr. Andalib | 10-12 am Solimani class-room | 1404/2/28 | Making speech and explain the prepared related slides |

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| 23 | Basic Immunological responses against allografts | Dr.Rezaie | 10-12 am Solimani class-room | 1404/3/4 | Making speech and explain the prepared related slides |
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| | End of semester and exam | 1404/03/22 | 10-12 am Solimani class-room | 1404/03/22 | |
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| Tuesday -12-14 | Preparation of the Students before the Beginning of the Class | University Professor | Course Topics | Practical Classes Tuesday -12-14 | |
| 1 | Ag-antibody interactions, basic and principles of serology laboratory tests | Dr.Rezaie | Ab-Ag reaction | The First Week 1403/11/29 | |
| 2 | Performing C-reactive Protein (CRP) test and knowing its uses and interpretation - Introduction to Erythrocyte sedimentation rate (ESR) test | Dr.Rezaie | CRP, ESR | The Second Week 1403/12/6 | |
| 3 | Performing direct and indirect ABO grouping tests. Rh-du test and knowledge of its application in blood transfusion | Dr.Eskandari | ABO, Rh | The Third Week 1404/01/19 | |
| 4 | Perform direct and indirect Coombs tests and their use, including the diagnosis of drug allergies and crossmatch tests | Dr.Eskandari | cross-match tests | The Forth Week 1404/01/26 | |
| 5 | Performing ASO and interpretation and application | Dr.Andalib | ASO | The Fifth Week 1404/02/02 | |
| 6 | Ag-Ab demonstration device including Flow-cytometry system and Elisa performance for Ag | Dr.Andalib | Flow-cytometry, Elisa | The sixth Week 1404/02/09 | |

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