



Ahvaz Jundishapur University of Medical Sciences

Daily lesson plan form
Vice Chancellor for Education Development of Ahvaz University of Medical Sciences
Center for the Study and Development of Medical Education

Course Title: Basic Immunology	Section number: 1	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: History and generalities of immunology	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Ali Khodadadi		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Explain the concept of "immunology" 2- Explain the importance of "immunology" 3- To get acquainted with a history of immunology and scientists in this field. 4- Get acquainted with the old and new concepts of immunology and the important topics of this course. 5- Explain the applications of "immunology"	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

References:

- 1- Cellular and Molecular Immunology
- 2- Kuby Immunology
- 3- Medical Immunology
- 4- Janeway's Immunobiology
- 5- Cellular and Molecular Immunology ABBAss-AbulK
- 6- Reliable Electronic Journals



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Course Title: Basic Immunology	Section number: 2	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Cells of the Immune System	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Ali Khodadadi		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1-Distinguish between different leukocytes according to developmental, functional and morphological stages. 2- Recognize the types of innate and acquired immune cells and describe the function of each. 3-Differentiate T, and B cell types and differentiate their function.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

References:

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- 4- Janeway's Immunobiology
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Course Title: Basic Immunology	Section number: 3	Number of units: 1.75	First semester of the Academic year 2025-2026	Educational field: Classroom			
Section Topic: Immune System associated Organs and Tissues	Audience: General medical students		Faculty of Medicine	Presenter: Dr. Mehri Ghafourian			
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Recognize the types of organs and tissues of the primary and secondary immune system and describe their function 2- Learn the cell anatomy and communication of these organs with the outside environment	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 4	Number of units: 1.75	First semester of the Academic year 2025-2026	Educational field: Classroom			
Section Topic: Antigens and their characteristics	Audience: General medical students		Faculty of Medicine	Presenter: Dr. Mehri Ghafourian			
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Understand the concept and definition of antigen. 2- Understand the concept and definition of immunogen and its difference with antigen. 3- Familiarize to the concepts such as allergens, epitopes, paratopes, haptens and carriers, cross-reactions, adjuvants. 4- Explain the important properties of an antigen and its types.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 5	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: The Structure and Function of Antibodies	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Afshin Amari		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Get acquainted with the structure of antibodies and their light and heavy chains. 2- Familiarize to the five classes of antibodies: IgG, IgM, IgA, IgD, IgE. 3- Recognize the subclasses of IgG and IgA immunoglobulins. 4- Get acquainted with the function of different immunoglobulin classes and their subclasses. 5- Get acquainted with the commonalities and structural differences and function of antibodies. 6- Understand the meaning of isotype, allotype, idiotype.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 6	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Innate immunity (Principles of antigen detection and phagocytosis)	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Afshin Amari		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Understand the concept of innate Immunity. 2- They will recognize the various cellular and molecular mechanisms involved in innate immunity. 3- They will get acquainted with innate immunity receptors.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 7	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Complement System	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Afshin Amari		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Understand the function and role of the complement system. 2- Identify the different complement pathways and describe the activators and inhibitors of each.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 8	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Cytokines (Characteristics, types and applications in the treatment of diseases)	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Ali Khodadadi		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Understand the concept “cytokine” 2- Name the types of innate immunity cytokines 3- Name the types of acquired immunity cytokines 4- Name the types of hematopoietic cytokines 5- Explain the types of cytokine receptors. 6- Understand the types of chemokines and their acceptors. Describe the use of cytokines in the treatment of diseases and their role in the pathogenesis of diseases.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 9	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Inflammation and phagocytosis (Their role in controlling or causing disease)	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Ali Asadirad		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- They will understand the process of inflammation. 2- They will know the causes of inflammation. 3- They will know the role of inflammation and phagocytosis in the immune system responses.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 10	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: The Principles of Antigen Presentation	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Ali Asadirad		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Understand the process of antigen presentation in the immune system. 2- They will describe the different pathways of antigen presentation. 3- They will differentiate the difference in the type of antigens and the difference in presentation pathways.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 11	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: MHC, Antigen Processing and Presentation	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Ali Asadirad		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- Discovery of the major histocompatibility complex and its role in immune responses. 2- Discovery of the major tissue compatibility complex in humans. 4- General characteristics of major histocompatibility complex genes 5- The structure of the major histocompatibility complex molecules 6- General characteristics of the major histocompatibility complex molecules 7- Understand the major histocompatibility complex molecules class I and II	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 12	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Evolution of B lymphocytes - The executive mechanisms of humoral immunity	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Mehri Ghafourian		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: Understand the developmental stages of B lymphocytes. Recognize the molecular markers of each stage of B lymphocyte development. Be familiar with the exact molecular mechanisms of B lymphocyte development. Recognize the genetic locus of immunoglobulin genes. Understand the importance and how to rearrange immunoglobulin genes. Understand the clinical and diagnostic importance of studying the rearrangement of immunoglobulin genes.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 13	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Evolution of T lymphocytes and the executive mechanisms of cellular immunity	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Mehri Ghafourian		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
<p>At the end the learners are expected to:</p> <p>Explain the types of cells involved in cellular immune responses.</p> <p>Explain the evolution of T cells from bone marrow stem cells.</p> <p>Describe how Naïve cells migrate to lymph nodes under the control of adhesion molecules and chemokines.</p> <p>Describe how T cells are activated in secondary lymph nodes. Describe how immune cells migrate, which is controlled by adhesion molecules and chemokines.</p> <p>Explain how T cells function against Antigens.</p>	Cognitive	<p>-Lecture</p> <p>-Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector</p>	*	*			<p>1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared.</p> <p>2-Encourage students to in-depth studies and seminars</p> <p>3- Encourage reading of books in English and not Persian in order to strengthen students' English</p> <p>4- Written exam and positively impact the students class activities</p>

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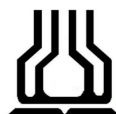
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Course Title: Basic Immunology	Section number: 14	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Mucosal Immunity	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Afshin Amari		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: 1- They will understand the role of mucosal safety. 2- They will know different parts of mucosal safety 3- They will know the effect of mucosal immunity on other parts of the immune system.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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Course Title: Basic Immunology	Section number: 15	Number of units: 1.75	First semester of the Academic year 2025-2026		Educational field: Classroom		
Section Topic: Immunologic Tolerance	Audience: General medical students		Faculty of Medicine		Presenter: Dr. Ali Khodadadi		
General purpose:							
Behavioral purposes: After the section the learner will be able to:	Field	Teaching method	Activities while teaching		Educational aids	Time (minutes)	Assessment – Complementary activities Ask question of major goals:
			Professor	Learner			
At the end the learners are expected to: English. Get acquainted with the mechanisms of obtaining central tolerance. Get acquainted with the mechanisms of obtaining environmental tolerance. Understand the importance of tolerance failure and autoimmune diseases.	Cognitive	-Lecture -Students participation in the discussion in the form of question and answer using educational aids, whiteboard, video projector	*	*			1-Ask students at the beginning of the next session about the topics taught in the previous session in order to be more prepared. 2-Encourage students to in-depth studies and seminars 3- Encourage reading of books in English and not Persian in order to strengthen students' English 4- Written exam and positively impact the students class activities

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