



**Golestan University of Medical Sciences**  
**Center for Studies and Development of Medical Sciences Education**  
**International Campus Education Development Office**



**Educational group Immunology**

**Course plan**

|                                                                                                                                     |                                                                                                   |                           |                                               |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------|
| Name of the course                                                                                                                  | Immunology                                                                                        | Academic year             | 2025-2026                                     |
| Field of study                                                                                                                      | medicine                                                                                          | Degree                    | Basic science                                 |
| Course/ lesson number                                                                                                               |                                                                                                   | Prerequisite/co-requisite |                                               |
| Number of units                                                                                                                     | 1/76 theoretical units, 0.23 practical units                                                      | type of unit              | Theoretical-practical                         |
| Number of learners                                                                                                                  | 100                                                                                               | number of sessions        | 14 theoretical sessions, 3 practical sessions |
| Venue                                                                                                                               | Faculty of Medicine                                                                               | Time                      | Monday 10 12                                  |
| Name of the person in charge of the course (lesson)                                                                                 | Dr. Homa Davoudi                                                                                  |                           |                                               |
| Address of the office                                                                                                               | Room 119                                                                                          |                           |                                               |
| Phone                                                                                                                               | 09112691994                                                                                       | The e-mail                | homdavoodi@yahoo.com                          |
| Contact time                                                                                                                        | 8-14                                                                                              |                           |                                               |
| Course professors                                                                                                                   | Dr. Davoudi - Dr. Memarian - Dr. Yazdani                                                          |                           |                                               |
| General objective                                                                                                                   |                                                                                                   |                           |                                               |
| Introduction to the body's defense system                                                                                           |                                                                                                   |                           |                                               |
| Specific goals                                                                                                                      |                                                                                                   |                           |                                               |
| At the end of the course, students are expected to be able to:                                                                      |                                                                                                   |                           |                                               |
| <ul style="list-style-type: none"><li>Understand the mechanisms, cells, and tissues involved in the body's defense system</li></ul> |                                                                                                   |                           |                                               |
| Learning resources                                                                                                                  |                                                                                                   |                           |                                               |
| Original sources                                                                                                                    | Molecular Cellular Immunology by Abu al-Abbas - Immunology by Dr. Vajghani - Immunology by Rouyet |                           |                                               |
| Secondary sources                                                                                                                   | does not have                                                                                     |                           |                                               |
| Teaching methods                                                                                                                    |                                                                                                   |                           |                                               |
| Lecture, conference, group discussion                                                                                               |                                                                                                   |                           |                                               |

| How to evaluate students and the score for each evaluation           |                   |                                                                                                                                                    |                                 |                                                      |                                                |
|----------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------|------------------------------------------------|
| A) Formative (evaluations during the course)                         |                   | -                                                                                                                                                  |                                 | score                                                | -                                              |
| B) Cumulative (end-of-course evaluations)                            |                   | Written exam                                                                                                                                       |                                 | score                                                | 20                                             |
| The date of the mid-term exam                                        |                   | -                                                                                                                                                  | the date of the final exam      |                                                      | -                                              |
| Course rules and regulations                                         |                   |                                                                                                                                                    |                                 |                                                      |                                                |
| Full-time attendance in class and participation in group discussions |                   |                                                                                                                                                    |                                 |                                                      |                                                |
| Professional and ethical duties and tasks of learners                |                   |                                                                                                                                                    |                                 |                                                      |                                                |
| Full-time attendance in class and participation in group discussions |                   |                                                                                                                                                    |                                 |                                                      |                                                |
| Curriculum timetable                                                 |                   |                                                                                                                                                    |                                 |                                                      |                                                |
| Row                                                                  | Date Time         | content                                                                                                                                            | presentation method             | students learning activities                         | Resources, equipment and educational aids      |
| 1                                                                    | Mondays 10am-12pm | An overview of the immune system. Types of body defense mechanisms and cells involved in the immune system                                         | PowerPoint presentation and Q&A | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard |
| 2                                                                    |                   | Types of lymphatic organs in the body, their cells, characteristics and roles                                                                      | PowerPoint presentation and Q&A | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard |
| 3                                                                    |                   | Antigen and immunogen and their types / Factors affecting the immunogenicity of an antigen                                                         | PowerPoint presentation and Q&A | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard |
| 4                                                                    |                   | Immunoglobulins, their types, structure and genetics                                                                                               | PowerPoint presentation and Q&A | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard |
| 5                                                                    |                   | Examination of the humoral immune response                                                                                                         | PowerPoint presentation and Q&A | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard |
| 6                                                                    |                   | The complement system, pathways of activation and regulation of the complement system, and diseases associated with complement system deficiencies | PowerPoint presentation and Q&A | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard |

|                           |  |                                                                           |                                        |                                                      |                                                                  |
|---------------------------|--|---------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------|------------------------------------------------------------------|
| 7                         |  | Antigen and antibody reactions: the basis and types of these reactions    | PowerPoint presentation and Q&A        | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard                   |
| 8                         |  | The MHC system processes antigen processing and presentation              | PowerPoint presentation and Q&A        | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard                   |
| 9                         |  | T lymphocyte receptors: structure and function                            | PowerPoint presentation and Q&A        | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard                   |
| 10                        |  | Cellular immunity testing                                                 | PowerPoint presentation and Q&A        | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard                   |
| 11                        |  | Molecular basis of autoimmune diseases                                    | PowerPoint presentation and Q&A        | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard                   |
| 12                        |  | Vaccination                                                               | PowerPoint presentation and Q&A        | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard                   |
| 13                        |  | Types of cytokines and their defensive role                               | PowerPoint presentation and Q&A        | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard                   |
| 14                        |  | Clinical application of cytokines                                         | PowerPoint presentation and Q&A        | Questions and Answers<br>Ask a question for research | Computer, video projector, markers, whiteboard                   |
| 15                        |  | Laboratory tests for determining blood type / Wright / Vidal / ELISA test | Practical during 3 laboratory sessions |                                                      | Video projector<br>Whiteboard<br>Observation, practical exercise |
| <b>Other explanations</b> |  |                                                                           |                                        |                                                      |                                                                  |
| No                        |  |                                                                           |                                        |                                                      |                                                                  |