

Name of the module: General Immunology

Number of module: 471-8-2008

BGU Credits: 4

ECTS credits:

Academic year: 2nd year Medicine

Semester: first semester

Hours of instruction: Mon 10:15-12:00,

Wed 10:15-12:00

Total teaching time: Lectures 44 hours,
Clinical discussions 4 hours

Location of instruction: Deichmann
Building for Health Professions.
Specific classroom numbers are
assigned yearly.

Language of instruction: Lectures will
be given in Hebrew.

Cycle: B. Med.Sc.

Position: Obligatory for 2nd year
preclinical medical students.

Field of Education: Immunology

Responsible department:
Microbiology, Immunology and
Genetics

General prerequisites: Biochemistry,
Cell Biology.

Grading scale: Successful passing of
the exam with a score of 65 or higher.

Module Description: Provides the students with basic knowledge of the principles of molecular and cellular immunology.

Aims of the module: The module invokes understanding of the principles of immune system functioning in health and disease.

Objectives of the module: Students will first become familiar with the anatomy, cells and molecules of the immune system and then gain understanding how the immune system functions to protect from infectious diseases (pathogen-host interactions) while maintaining tolerance to self molecules. Students will then become familiar with immune complications resulting in autoimmunity, immunodeficiency and graft rejection.

Learning outcomes of the module: On successful completion of the course, the student should be able to:

1. Develop basic understanding of structure and function aspects of the immune system.
2. Develop problem-solving and critical-thinking skills related to clinical immunology.
3. Learn to integrate and apply key concepts of immunology in the various fronts of the immune system.

Attendance regulation: Attendance to the lectures is not obligatory, attendance to and submission of the frontal exercises is obligatory.

Teaching arrangement and method of instruction: Instruction in the course is based on frontal oral lectures, written assignments and clinical discussions.

Lecturers: Alex Breiman, Angel Porgador, Ron Apte, Alon Monsonogo

Contact details:

Office phone: 08-6479052

Cell phone: 054-2516-730

Email: alonmon@bgu.ac.il

Office hours: By appointment

Module evaluation: at the end of the semester the students and the lecturers will evaluate the course.

Confirmation: the syllabus was confirmed by the faculty academic advisory committee to be valid on 2012 (academic year)

Last update: June 2015

Assessment:

Students will be assessed in the module only by passing an exam with a score of 65 or higher.

Work and assignments: Solving exercises of clinical immunology.

Time required for individual work: In addition to attendance in class (48h) and home exercises (6h), the students are expected to review the lectures and read the relevant book chapters. This course requires substantial work by the students after the lectures to process the learnt material and to generalize the concepts that were taught. Approximately 60 additional minutes are necessary per lecture (24 lectures).

Course Content\ schedule and outlines:

- General introduction to the innate and adaptive immune system
- Antibody structure and function
- Lymphocyte receptors and mechanism of diversity
- Antigen presenting cells and antigen presentation - structural and genetic aspects
- The lymphatic and complement systems
- NK and T Lymphocyte subsets
- Lymphocyte activation
- The cytokine network during inflammation
- The humoral immune response to pathogens
- Cellular immune response to pathogens
- Host-pathogen interactions
- Immune tolerance
- Autoimmunity and autoimmune diseases
- Graft rejection
- Immunodeficiency diseases

Textbooks:

- 1. Cellular and Molecular Immunology**, 5th edition and newer editions. Abul K. Abbas, Andrew H. Lichtman and Shiv Pillai
- 2. Immunobiology (The immune system in health and disease)**, 4th edition or newer editions. Charles A. Janeway, Paul Travers and Mark Walport