The Hebrew University of Jerusalem

Syllabus

BASIC IMMUNOLOGY - 73810

Last update 12-08-2023

HU Credits: 2

Degree/Cycle: 2nd degree (Master)

Responsible Department: Animal Sciences - International Program

Academic year: 0

Semester: 1st Semester

Teaching Languages: English

Campus: Rehovot

Course/Module Coordinator: Dr. Yossi Wein

Coordinator Email: yosi.wein@mail.huji.ac.il

Coordinator Office Hours: by appointment

Teaching Staff:

Dr. Yossi Wein

Course/Module description:

Students will learn the basic structure of the immune system: cells and organs. Two main immune phenotypes will be presented – the innate and adaptive immune responses. The first part of the course will describe the inflammatory response and innate immunity in terms of responding cells and effector mechanisms. The second part of the course will be dedicated to adaptive immunity and the integrated immune response (both adaptive and innate). Within this context, effector mechanisms and partners will be described, as well as aspects of immunological memory (recall) and immune tolerance.

Course/Module aims:

To provide a comprehensive understanding of the fundamentals of immunology

Learning outcomes - On successful completion of this module, students should be able to:

•Describe the anatomy and cell structure of the immune system.
•Distinguish between innate effector mechanisms and adaptive effector mechanisms.
•Describe origins, differentiation (including repertoire selection in lymphocytes), maturation and function of immune cells.
•Recognize the process of inflammation and the process of cell migration and cell recruitment.
•Recognize the humoral and cellular adaptive effector mechanisms.
•Know and understand the regulatory functions of cells, cell membrane proteins and cytokines in immunity.
•Describe the function of the MHC and its relevance for immune responses.

Attendance requirements(%):

100

Teaching arrangement and method of instruction: Lectures

Course/Module Content:

•Introduction to the immune system, innate and adaptive immunity.
•Structure: cells and organs.
•The inflammatory response, recruitment and migration.

•Innate type receptors for antigen, cell activation and generation of effectors.
•The clonal adaptive receptor for antigen: B & T cells.
•The major histocompatibility complex – function and structure.
•Ontogeny of lymphocytes and generation of tolerance and the actual repertoire.
•Activation of lymphocytes and generation of effector mechanisms: B & T lymphocytes.

Required Reading:
Selected readings appear in Moodle

Additional Reading Material:
Selected readings appear in Moodle

Grading Scheme:
Written / Oral / Practical Exam 100 %

Additional information:
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