



Course Syllabus

Course Code	Course Title	ECTS Credits
IMPH-270	Immunology/ Ανοσολογία	6
Prerequisites	Department	Semester
None	Health Sciences	Fall/Spring
Type of Course	Field	Language of Instruction
Compulsory	Pharmacy	Greek/English
Level of Course	Lecturer(s)	Year of Study
1 st Cycle	Dr Christou Charita	2 nd
Mode of Delivery	Work Placement	Corequisites
Face-to-Face	N/A	N/A

Course Objectives:

This class is introductory to immunology for pharmacy students. Through this course students will be introduced to Immunology and acquire a basic understanding of current knowledge of the immune system. Important mechanisms of the immune system are involved in autoimmune disease, chronic inflammation, transplantation, allergy and vaccination. In addition, many drugs act either as immunosuppressants or as immunomodulators. It is therefore crucial for the Pharmacy students to have a general but good knowledge of the function of immune system and the central principles of immunology.

The main objectives of the course are to:

- Introduce the students to the molecular and cellular players involved in immunity, and discuss how they interact in defending the body against infections and cancer
- Use examples to explain the importance of these interaction in acquiring the ability to recognize antigens and how these players are involved in autoimmune diseases, allergy and transplant rejection
- Review some of the tools and techniques used in immunology and their practical applications like vaccination, immune disease diagnosis and treatment
- Explain the value of scientific research in the field of immunology

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Recognize and describe the principal organs, cells and molecules of the human immune system and their functions
2. Identify the components involved in the molecular processes of humoral and cellular immune response and describe the nature of soluble mediators, the regulatory controls and mechanisms of the immune system
3. Discuss the aspect of innate and acquired immunity and recognize the molecular basis of immunotolerance and immune hypersensitivity
4. Demonstrate the ability to explain the molecular basis of autoimmune diseases and the consequences of immunodeficiency disorders
5. Describe biotechnological applications based on immunology principles and evaluate drugs used for diagnosis/treatment of several diseases
6. Display knowledge and understanding of the mode of action of vaccines and immunological drugs

Course Content:

1. Overview of Immunity and the Immune System;
2. Cells, Tissues, and Organs of the Immune System
3. Innate immunity
4. Cytokines
5. Antibodies and Antigens
6. The Major Histocompatibility Complex
7. Antigen Processing and Presentation
8. B and T lymphocyte receptors
9. T-Lymphocyte Antigen Recognition and Activation
10. B-Lymphocyte Activation and Antibody Production
11. Humoral and cell mediated Immunologic Tolerance
12. The complement system
13. Hypersensitivity
14. Tolerance
15. Autoimmunity
16. Transplant immunology

Learning Activities and Teaching Methods:

Lectures, class discussions

Assessment Methods:

Final exam, Midterm exam, assignment/presentation

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Kuby Immunology	Judith A. Owen, Jenni Punt, Sharon A. Stranford	W.H. Freeman	2013	978- 1464119910
Roitt's Essential Immunology	Peter J. Delves, Seamus J. Martin, Dennis R. Burton, Ivan M. Roitt	Wiley- Blackwell	2017	978-1-118- 41577-1

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Basic Immunology EBook: Functions and Disorders of the Immune System	A.K. Abbas, J.S. Poher, A.H.	W B Saunders	2012	145575899X, 9781455758999
Janeway's Immunobiology	Kenneth Murphy, Casey Weaver	Garland Science	2016	978- 0815345053