



UNIVERSITY OF NICOSIA

ΠΑΝΕΠΙΣΤΗΜΙΟ ΛΕΥΚΩΣΙΑΣ

Course Code PHAR-270	Course Title Principles of Immunology/Αρχές Φαρμακευτικής Ανοσολογίας	ECTS Credits 5
Department Life and Health Sciences	Semester Fall	Prerequisites None
Type of Course Required	Field Pharmacy	Language of Instruction Greek/English
Level of Course 1 st cycle	Year of Study 2 nd	Lecturer Dr Vicky Nicolaidou
Mode of Delivery Face to Face	Work Placement N/A	Co-requisites None

Objectives of the Course:

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 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. Through this course students will be introduced to Immunology and acquire a basic understanding of current knowledge of the immune system.

The main objectives of the course are to:

- Introduce the molecular and cellular players involved in immunity, and discuss how they interact in defending the body against infections and cancer.
- Use examples to demonstrate and 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.
- Discuss 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. Name and describe the principal organs, cells and molecules of the human immune system and their functions.
2. Distinguish the components involved in the molecular processes of humoral and cellular immune response and describe the nature of soluble mediators, and the regulatory controls and mechanisms of the immune system.

3. Compare and discuss the aspect of innate and acquired immunity and describe the molecular basis of immunotolerance and immune hypersensitivity.
4. Explain the molecular basis of autoimmune diseases and the consequences of immunodeficiency disorders.
5. Associate biotechnological applications based on immunology principles to disease diagnosis/treatment.
6. Understand the mode of action of vaccines and immunological drugs.

Course Contents:

1. Overview of Immunity and the Immune System; Cells, Tissues, and Organs of the Immune System
2. Antibodies and Antigens
3. Maturation of B Lymphocytes and Expression of Immunoglobulin Genes
4. The Major Histocompatibility Complex
5. Antigen Processing and Presentation
6. T-Lymphocyte Antigen Recognition and Activation
7. B-Lymphocyte Activation and Antibody Production
8. Immunologic Tolerance
9. Cytokines
10. Innate Immunity
11. Effector Mechanisms of Cell-Mediated Immunity
12. Effector Mechanisms of Humoral Immunity
13. Immunity to Microbes
14. Transplantation Immunology; Immunity to Tumors
15. Autoimmunity and Autoimmune Diseases; Immunodeficiencies

Learning Activities and Teaching Methods:

Lectures; reading and discussions.

Assessment Methods:

Participation, Tests and Mid-term Exam; Final Exam

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Richard A. Goldsby, Thomas J. Kindt, Barbara A. Osborne, Janis Kuby	Immunology	W.H. Freeman	2002	0716749475

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
A.K. Abbas, J.S. Pober, A.H.	Cellular and Molecular Immunology	W B Saunders	2003, 5th ed.	ISBN: 0721600085
G. Pinchuk	Schaum's Outline of Immunology	McGraw Hill	2002	ISBN: 0-07-137366-7

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Richard A. Goldsby, Thomas J. Kindt, Barbara A. Osborne, Janis Kuby	Ανοσολογία	Εκδόσεις Πασχαλίδης	2007	978-960-399- 530-2

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
D. MALE, J.B., D.B. ROTH, I. ROITT	Ανοσολογία	Επιστημονικές εκδόσεις ΠΑΡΙΣΙΑΝΟΥ Α.Ε.		