



DISCIPLINE FILE IMMUNOLOGY

1. Data about the program

1.1	“CAROL DAVILA” UNIVERSITY OF MEDICINE AND PHARMACY
1.2	FACULTY OF MEDICINE
1.3	DEPARTMENT: 1 FUNCTIONAL SCIENCES
1.4	DISCIPLINE: PATHOPHYSIOLOGY 1
1.5	DOMAIN OF STUDY: HEALTH- Sectorally regulated within the European Union
1.6	STUDY CYCLE: LICENCE
1.7	STUDY PROGRAM – MEDICINE- ENGLISH MODULE

2. Data about the discipline

2.1	Name of the discipline in the educational plan: Immunology					
2.2	DISCIPLINE COD: M004_3/Fiziopatologie si Imunologie					
2.3	Discipline type: FUNDAMENTAL DISCIPLINE					
2.4	Discipline regimen: MANDATORY DISCIPLINE					
2.5	The holder of the course activities: Lecturer MD, PhD Sfrent Cornateanu Roxana Lucia					
2.7 Year of stud	III	2.8 Semester	V and VI	2.9 Type of evaluation	E: Final examination written	

3. 3. Total estimated time (hours/semester of didactic activity an self preparation/study)

I. Academic training (teaching, practical application, assessment)

3.1 Nr. hours / week 16	From which	3.2 lecture	8	3.3 seminary / laboratory	8
3.4 3.4 Total hours of educational plan 28	From which	3.5 lecture	14		14

Evaluation (nr. of hours)	7
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II. Self preparation /study

Time allocation	hours
Study of course material, textbooks, books, study of the recommended minimal bibliography	20
Additional research in the library, research through the internet	10

Performing specific activities for preparing projects, laboratories, elaborating reviews or other tasks	10
Specific preparation activities for projects, laboratory work, assignments, and reports	10
Tutoring	10
Other activities	4
3.7. Total individual study hours	64
3.9. Total hours per semester (3.4.+3.7.):	92
3.10 Number of credits 4	

4.Preconditions (where applicable)

4.1. of curriculum	Basic knowledge of general Physiology
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5. Conditions (where applicable) - not required

6. Learning outcomes

Knowledge	Skills	Responsibility and autonomy
Level CNC 6 The content of the discipline and the working methods with the students ensure the development of the knowledge, understanding and use of diagnostic methods, explanation and interpretation of the results and their integration into clinical practice through specific applications. This gives you an important professional skills: Establishing a diagnosis based on investigations, on stages, and finally on reflection on possible differential diagnosis	Professional skills: establishing a diagnosis based on investigations, in stages and finally, reflection on the possible differential diagnosis. Transversal skills: through the way of evaluating a patient's medical problems, moral and social education for the medical field, related personal and professional development.	Development of preclinical medical thinking in how to assess a patient's medical problem, moral and social education for the medical field, personal and professional development. Teamwork abilities, flexibility, adaptability in different circumstances. Management/implementation of complex medical activities by assuming responsibilities for making and implementing correct decisions. Coordination and involvement in medical activities involved in resolving emergency situations.

7. Course objectives (aligned with the learning outcomes)

7.1 General objective	Fundamental Immunology course in Romanian and English are teach during two semesters. The objectives of this discipline are: knowledge of cell and molecular biology of the humoral and cell immune response to normal with reference to the types of cells involved, their phenotypic characteristics, their activation mechanisms, their effector functions; knowledge of the main chapters of immunopathology of major importance for the current medical
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	practice; knowledge of the main immunological investigation methods for establishing a correct functional diagnosis.
7.2 Specific objectives	Correct interpretation of the results of immunological para -clinical investigations. The ability to justifiably indicate current immunological explorations. They will know the indications, contraindications and limits of certain immunological functional explorations. They will logically understand the clinical context in immunopathology.

8. Contents

8.1. Lecture	Teaching method	Observations
1. Introductory lecture-general aspects of the immune response	Oral presentation in the lecture hall supported by numerous schemes; interactive contact	2 h
2. The organization of the immune system; type of immune responses		2h
3. The antigen; definition, types...		2h
4. Immunoglobulins- structure, functions		2 h
5. Ontogenesis of B lymphocytes		2h
6. Ontogenesis of T lymphocytes		2h
7. Molecular histocompatibility complex MHC I,II		2 h
8. Mechanisms of selective antigen presentation in function of their origin		2 h
9. T lymphocyte receptors —types		2 h
10. B lymphocyte receptors —types		2 h
11. Cellular mediated lysis versus the complement mediated lysis		2 h
12. Humoral immune response: organization and function		2h
13. Complement system		2 h
14. Cellular mediated immune response		2 h
15. Type I hypersensitivity; mechanisms and stages		2 h
16. Allergic diseases		2 h
17. Type II hypersensitivity stages, mechanism, pathology		2 h
18. Type III hypersensitivity stages, mechanism, pathology		2 h
19. Type IV hypersensitivity classification, types, stages, mechanism, pathology		2 h
20. Immune tolerance- mechanisms		2 h
21. Organospecific autoimmune diseases		2 h
22. Diffuse autoimmune diseases		2 h
23. Tumor immune defense		2 h

24.The organ transplantation and mechanisms of acute and chronic rejection		2 h
25. The neuro- immuno modulation principles		2 h
26.The principles of investigation in humoral immunity response - diagnostic value		2 h
27. The principles of investigation in cellular mediated immune response - diagnostic value		2 h
28. The quality management in immune laboratory		2 h

Recent bibliograpy

1. Imunologie fundamentala, Constantin Bara, Ed. Medicala, 1996
2. Esential de Imunologie, Constantin Bara, Ed. ALL Medical, 2002, ISBM 973-571-373-X
3. Imunologia transplantului, Ileana Constantinescu, ISBN: 978-973-708-431-6,2009
4. Basic concepts in immunology, John Clancy, JR, ISBN 0-07-011371-8, 1998
5. Immunology –Problem based, Reginald M Gorczynski, Jacqline Stanley, 2006
6. How the immune system works, third edition, Lauren Sompayrac, ISBN: 978-1-4051-6221,2008
7. Oxford Handbook of clinical immunologi, Gavin Spickett, ISBN 0-19-262721-x, 1999
- 8.Immunology, Stephen Boag&Amy Sadler, ISBN 978-0-340-92558-4, 2007
9. Roitt's Esential Immunology, Peter J., Delves I., SeamusJ., Martin Dennis R., Burton Ivan M Roitt, 12 th edition. 2011
10. Human Leucocyte antigen: The major Histocompatibility Complex of Man, Clinical Diagnosis and management by Laborarory Methods, J. Bernard Henry, M.D. twentieth ed. 2001
11. Genetics and molecular genetics of the MHC, reviews in Immunogenetics, Rhodes, D.A. Trowsdale, J., 1999
12. Molecular Diagnostics- a training and study guide, Tsongalis GregoryJ, Coleman Willian B., 2002

9. Evaluation

Activity type	9.1 Evaluation criteria	9.2 Methods of evaluation	9.3 Percentage in the final grade
9.4 Lecture	Knowledge of the theoretical notions of immunology	The final exam consists of single and multiple choice questionnaire from theoretical items treatable in max 1.30 h	100%
Minimum performance standards			
Minimum grade is five at cours exam			

11.09.2025

Signature of the course holder:

Department Director

Prof. Univ.
Dr.IonFulga

Date of approval by
the Department Council: