



DISCIPLINE SHEET

1. Program data

1.1.	UNIVERSITY OF MEDICINE AND PHARMACY “CAROL DAVILA”
1.2.	MEDICINE FACULTY/ CLINICAL DEPARTMENT 2
1.3.	DISCIPLINE : INFECTIOUS DISEASES I
1.4.	FIELD OF STUDIES: HEALTH
1.5.	STUDY CYCLE: BACHELOR'S DEGREE
1.6.	CURRICULUM: MEDICINE

2. Discipline data

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2.1.	Discipline name: Infectious diseases							
2.2.	Discipline location :							
2.3.	Lecture activities coordinator:							
2.4.	Practical lessons:							
2.5.	Lecture activities coordinator - English module:							
2.6.	Practical lessons - English module:							
2.7.	Year of study	VI	2.8. Semester	XI- XII	2.9. Evaluation type	Written exam and practical exam	2.10. Discipline regime	MANDATORY

3. Estimated total time (hours / semester of teaching activity)

No. of hours per week	25	from which:	10	Practical lessons	15
Total hours in the curriculum	140	from which:	56	Practical lessons	84
Time fund distribution	6 weeks	5 h/day			hours
Textbook study, course support, bibliography and notes					yes
Additional documentation in the library, on specialized electronic platforms and in the field					yes
Preparation of seminars / laboratories, topics, papers, portfolios and essays					yes
Tutoring					yes
Examination					yes
Other activities					
Total individual study hours					
Number of credits					8

4. Preconditions (where applicable)

4.1. of curriculum	Fundamental knowledge of Microbiology, Virology, Parasitology, Immunology, Cell Biology, Internal Medicine
4.2. of skills	not necessary

5. Conditions (where applicable)

5.1. for the course	Power Point presentation, use of video projector and other IT equipment Location: Aula - HIV / AIDS Academy National Institute of Infectious Diseases "Prof.Dr. Matei Balș" Bucharest
5.2. for seminar/laboratory	Endowment with necessary equipment to carry out the practical lessons. Student access in hospital ward with beds of Infectious Diseases and clinical laboratories. Location: National Institute of Infectious Diseases "Prof.Dr. Matei Balș" Bucharest

6. Specific skills acquired

6.1 Professional skills (expressed through knowledge and skills)	Acquiring the necessary and sufficient knowledge, so that at the end of the stage of Infectious Diseases students will know: 1. Etiology, positive diagnostic algorithm and differential diagnostic in main infectious diseases 2. First-line etiological treatment for major diseases infectious diseases 3. Classification, mechanisms of action, spectrum, indications, contraindications, side effects, drug interactions, dosage and principles of judicious use of antibiotics, antivirals and antifungals 4. Antimicrobial resistance and spread prevention strategies 5. Context of occurrence of an infectious disease at the individual level and at community level, as well as choice and application of appropriate nonspecific and specific prophylaxis measures. 6. Vaccines from the National Vaccination Program for Children and Adults, as well as optional vaccines. 7. Presentation of a clinical case of infectious diseases, the collection of bibliographic material and writing a scientific presentation in connection with related aspects to infectious pathology. 8. To be able to initiate and carry out studies regarding clinical-evolutionary peculiarities encountered in infectious diseases and mastering the way of presenting the obtained results.
6.2 Transversal skills (professional development, personal development)	1. By acquiring the knowledge of infectious diseases, the student learns to identify the objectives that need to be achieved, the available resources, the work stages, the conditions and deadlines and the risks related to caring of a patient with infectious diseases. 2. Acquiring by students the concept of multidisciplinary specific to Infectious Diseases, as well as relationship techniques and effective teamwork. 3. Acquiring by students the rules of medical ethics. 4. The students will learn to efficiently use different information sources communication resources and assisted professional training (portals,

	internet, specialized software applications, databases, online courses) both in Romanian and in a language of international circulation.
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7. Discipline objectives (based on the specific skills acquired)

7.1. General objective	Acquiring the knowledge that will allow to establish the correct diagnosis, treatment and prophylaxis in the main infectious diseases.
7.2. Specific objectives	Acquiring the knowledge that will allow: 1. Correct and rapid diagnosis of major transmissible infectious diseases: performing the epidemiological anamnesis; recognition of specific clinical signs; knowledge and recommendation of specific etiological diagnostic tests and paraclinical investigations when necessary, as well as the correct interpretation of their results. 2. Correct diagnosis of the main infectious syndromes and appropriate treatment, depending on the possible etiological agents involved 3. The correct and rapid choice of appropriate first-line antibiotic therapy. 4. Correct and judicious use of antibiotics, antivirals and antifungals in current therapeutic practice, avoiding the selection of resistant mutants. 5. Knowledge of the main measures for transmission prevention of infectious diseases: non-specific measures, vaccines, immunoglobulins, serum, antibiotic prophylaxis 6. Correct assessment of the epidemiological risk and compliance with the epidemiological rules regarding the circuit of patients in the hospital.

8. Content

8.1. Lecture : 28 lectures of 2 hours each = 56 hours	Teaching method	Remarks
The Infectious Diseases module has a duration of 6 weeks and takes place during the first and second semesters of the sixth year. LECTURES Lecture 1. Etiology of infectious diseases. Classification and characteristics of pathogens involved in major infectious diseases: bacteria, viruses, fungi, parasites, unconventional infectious agents (prions). Human commensal flora. (2 hours) Lecture 2. Definition and classification of infections. Pathogenesis of infectious diseases. Mechanisms of anti-infective defense: non-specific means of defense (anatomical barriers, inflammatory reaction, phagocytosis, non-specific plasma and tissue factors). Specific means of defense (humoral and cellular immunity). Innate and acquired immune deficits. (2 hours) Lecture 3. Diagnosis of infectious diseases - epidemiological, clinical and laboratory diagnosis (hematological, biochemical, bacteriological, virological, parasitological, mycological, serological, molecular biology). (2 hours)	Interactive exposure of the material according to the analytical program. Multimedia means, powerpoint presentations and didactic films will be used (regarding mechanisms of action of some anti-infective agents; mechanisms of microbial resistance, HIV and hepatitis viruses replication	

Lecture 4. Antibacterial therapy (antibiotic therapy): general consideration, antibacterial activity (bactericidal and bacteriostatic effect, time-dependent antibiotics, concentration-dependent antibiotics, in vitro evaluation of antibacterial activity - MIC, MBC), principles of pharmacokinetics and pharmacodynamics, mechanisms of action, mechanisms of bacterial resistance to antibiotics, rules and principles of judicious antibiotic therapy. (2 hours) Lecture 5. Description of the main classes of antibiotics (Beta-lactams; Aminoglycosides; Glycopeptides; Macrolides; Lincosamides and Ketolides; Cyclines; Phenicol; Rifamycins; Oxazolidinones; Fluoroquinolones; Polymyxins; Sulfamides and Trimethoprim; Imidazoles; Other classes of antibiotics), antibacterial spectrum, indications, contraindications, adverse effects, drug interactions, dosage, mechanisms of bacterial resistance. (2 hours) Lecture 6. Antiviral, antifungal, antiparasitic therapy: description of the main classes of antiviral, antifungal and antiparasitic agents (class representatives, mechanism of action, spectrum of activity, indications, contraindications, adverse effects, drug interactions, dosage, resistance mechanisms). (2 hours) Lecture 7. Non-etiological therapies in infectious diseases: antipyretic therapy, anti-inflammatory therapy (NSAIDs and corticotherapy), immunomodulatory therapy. Fever of unknown origin: etiology (infectious and non-infectious causes), algorithms for positive and differential diagnosis, therapeutic approach. (2 hours) Lecture 8. Vaccines / Immunoglobulins / Heterologous sera. (2 hours) Lecture 9. Acute inflammatory response syndrome, sepsis and septic shock: definitions, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and non-specific prophylaxis. Bacterial endocarditis. (2 hours) Lecture 10. Acute febrile eruptive infectious diseases: measles, rubella, chickenpox, shingles (definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and non-specific prophylaxis). (2 hours) Lecture 11. Acute pharyngitis - Angina. Scarlet fever. Diphtheria. Infectious mononucleosis (definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and non-specific prophylaxis). (2 hours) Lecture 12. Flu. Acute upper respiratory tract infections: definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific	cycle)	
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and non-specific prophylaxis. (2 hours) Lecture 13. Emerging infections - SARS CoV2 infection: definitions, etiology, epidemiology, clinical picture, laboratory diagnosis, evolution, prognosis, complications, treatment, specific and non-specific prophylaxis. (2 hours) Lecture 14. Acute infections of the lower respiratory tract: bronchitis and acute exacerbations of COPD; acute pneumonia, pleural empyema. (definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific prophylaxis). (2 hours) Lecture 15. Other infections with aerogenic transmission: whooping cough, mumps: definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and non-specific prophylaxis. (2 hours) Lecture 16. Acute meningitis and encephalitis: definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and non-specific prophylaxis. (2 hours) Lecture 17. Viral meningitis. Bacterial meningitis. TB meningitis. (2 hours) Lecture 18. Acute infectious diseases with neurological damage (poliomyelitis, botulism, tetanus): definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific prophylaxis. (2 hours) Lecture 19. HIV/AIDS infection: definition, epidemiology, pathogenesis, clinical manifestations, classification, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific prophylaxis. (2 hours) Lecture 20. Acute gastrointestinal infections: definition, etiology, pathogenesis and ethiopathogenic classification (inflammatory and non-inflammatory). Food poisoning. (2 hours) Lecture 21. Dysentery, cholera, post-antibiotic diarrhea, diarrhea with Clostridium Difficile, Typhoid fever. (definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific		
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prophylaxis). (2 hours) Lecture 22. Acute viral hepatitis with hepatitis A and E viruses: epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific prophylaxis. (2 hours) Lecture 23. Acute viral hepatitis with hepatitis B,C,D viruses: epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific prophylaxis. (2 hours) Lecture 24. Zoonoses - Leptospirosis, Anthrax, Rabies. (definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific prophylaxis). (2 hours) Lecture 25. Zoonoses - Lyme disease, Rickettsiosis. (definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific prophylaxis).(2 hours) Lecture 26. Infections in immunodepressed. Nosocomial infections. (definition, epidemiology, pathogenesis, etiology, clinical manifestations, laboratory diagnosis, positive and differential diagnosis, evolution, prognosis, complications, treatment, specific and nonspecific prophylaxis). (2 hours). Lecture 27. Travel-related infectious diseases: definition, epidemiology, diagnosis, treatment, means of specific and nonspecific prophylaxis. (2 hours). Lecture 28. The importance and role of intensive care in the management of severe infectious diseases, in the context of epidemics and pandemics with respiratory tropism viruses. The specialists and primary intensive care physicians from the Intensive Care Unit of the Infectious Diseases Hospital will be involved in the teaching activity. (2 hours). Lectures bibliography: 1. <i>The common course taught at the location of the discipline (word and ppt format).</i>		
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2. <i>Adrian Streinu-Cercel, Victoria Arama, Petre Iacob Calistru (under the editorial board), Infectious Diseases – Course for students and resident doctors – Volume 1, "Carol Davila" University Publishing House 2019.</i> 3. <i>Emanoil Ceausu (under the editorial board), Infectious Diseases Handbook, vol.1, Medical Publishing House, Bucharest, 2018</i> 4. <i>Emanoil Ceaușu (under the editor), Infectious Diseases Handbook, vol.2, Medical Publishing House, Bucharest, 2020</i> 5. <i>Mircea Chiotan (under the editorial office) "Infectious Diseases", National Publishing House, 2011.</i> 6. <i>Emanoil Ceausu (under the editorship). Infectious Diseases Course – Department of Infectious and Tropical Diseases "Dr Victor Babes" , 2012.</i> 7. <i>E. Pilly, ECN Pilly: Maladies Infectieuses et tropicales, 27e edition, 2020</i> 8. <i>Principles and Practice of Infectious Diseases John E. Bennett, Raphael Dolin, Martin J. Blaser, Mandell, Douglas and Bennett'S 9th Edition, 2019, Elsevier Saunders.</i>		
8.2. Clinical stage / practical lessons (PL): 28 PL of 3 hours = 84 hours	Teaching methods	
Practical Work Topics PL 1 - Presentation of universal precautions for the prophylaxis of nosocomial infections transmitted through the blood and other biological fluids from patients Presentation of nonspecific measures to prevent the transmission of infectious diseases by aerogenic and digestive way. Presentation of the rules of occupational safety and health during the infectious diseases training course. Presentation of the rules for the prevention and combating of fires at work (PSI) and the rules to be observed in case of emergency situations (earthquakes, etc.). (3 hours) PL 2 – Visiting the Bacteriology Laboratory (3 hours). PL 3 – Visiting the Virology Laboratory (3 hours). PL 4 – Visiting the Molecular Genetics Laboratory (3 hours). PL 5 - Presentations of clinical cases at the patient's bedside, from the topics of the courses (3 hours) PL 6 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 7 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 8 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 9 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 10 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 11 - Presentations of clinical cases at the patient's bedside, from the topics of the courses (3 hours)	Clinical education at the bedside of the sick person, under the guidance of the group assistant. During the internship sessions, the direct participation of students in the anamnesis and the clinical examination of patients, the interpretation of laboratory tests in order to establish the positive diagnosis and the adequate treatment of the main infectious diseases are aimed at, in order to reach: - differentiation between normal and pathological conditions related to infectious disease - recognition of symptoms/signs associated with infectious diseases - understanding how	

PL 12 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 13 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 14 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 15 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 16 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 17 - Presentations of clinical cases at the patient's bedside, from the topic of courses (3 hours) PL 18 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 19 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 20 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 21 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 22 - Presentations of clinical cases at the patient's bedside, from the topics of the courses (3 hours) PL 23 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 24 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 25 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 26 - Presentations of clinical cases at the patient's bedside, from the topic of the courses (3 hours) PL 27 - Presentations of clinical cases of severe infectious diseases in the ICU section of the Infectious Diseases Hospital, discussing their multidisciplinary management (3 hours). The specialists and primary intensive care physicians from the Intensive Care Unit of the Infectious Diseases Hospital will be involved in the teaching activity. PL 28 – Discussing protocols and guidelines for diagnosis, treatment and prophylaxis in severe infections and in the context of epidemics and pandemics with respiratory tropism viruses (influenza, SARSCov2, etc.) (3 hours)	and stages of diagnosis in infectious diseases - knowledge of how to properly use antibiotics, antivirals and antifungals in the management of infectious diseases. - knowledge of vaccines from the National Vaccination Program and optional vaccines	
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Practical lessons bibliography:

1. *The common course taught at the location of the discipline (word and ppt format).*
2. *Adrian Streinu-Cercel, Victoria Arama, Petre Iacob Calistru (under the editorial board), Infectious Diseases – Course for students and resident doctors – Volume 1, "Carol Davila" University Publishing House 2019.*
3. *Emanoil Ceausu (under the editorial board), Infectious Diseases Handbook, vol.1, Medical Publishing House, Bucharest, 2018*
4. *Emanoil Ceaușu (under the editor), Infectious Diseases Handbook, vol.2, Medical Publishing House, Bucharest, 2020*
5. *Mircea Chiotan (under the editorial board) "Infectious Diseases", National Publishing House, 2011*

6. *Emanoil Ceausu (under the editorship). Infectious Diseases Course – Department of Infectious and Tropical Diseases "Dr Victor Babes" , 2012.*
7. *E. Pilly, ECN Pilly: Maladies Infectieuses et tropicales, 27e edition, 2020*
8. *Principles and Practice of Infectious Diseases John E. Bennett, Raphael Dolin, Martin J. Blaser, Mandell, Douglas and Bennett'S 9th Edition, 2019, Elsevier Saunders.*

9. Corroboration of the contents of the discipline with the expectations of the representatives of the epistemic community, professional associations and representative employers in the field related to the program

The concepts of the infectious diseases discipline exposed through lectures and practical lessons are in accordance with the requirements of the European medical university education, being supported by those in the specialized bibliography, helping to integrate the information obtained in the multidisciplinary context, thus favoring the development of competences in establishing a diagnosis. The professional training of the sixth-year student in the Discipline of Infectious Diseases aims the following: learning the principles of correct diagnosis and treatment of eruptive and non-eruptive infectious diseases, the correct use of antibiotherapy, an effective communication relationship with the patient and his family and preparing the future doctor for a good / adequate professional communication with the future employer.

10. Evaluation

Type of activity	Evaluation criteria	Valuation methods	Percentage of the final grade
Lecture	Attendance at the course Final theoretical written exam	Final written test, multiple choice test, with 50 questions with multiple answers, to which can be added 3 questions with narrative answers. (Duration 2 hours).	50%
	Two written papers or oral colloquia - with the group assistant, during the practical lessons	Written paper no. 1, with 10 questions or oral colloquium, with the group assistant - during the 3rd week of the practical lessons	10%
		Written paper no. 2, with 10 questions or oral colloquium, with the group assistant - during the 5th week of the	10%

		practical lessons	
Practical lessons / PL	Presence at PL Weekly clinical case presentations by each group of students	Oral	10%
	Practical exam	The practical exam will take place under the coordination of the group assistant and at the end will be supervised by the lectures coordinator. Each student will receive from the group assistant a real clinical case from the patients admitted to the clinic, respecting the lecture topics. The student will have to perform the patient's medical history and clinical examination within 20 minutes, after which he will ask the group assistant for the results of the laboratory tests / investigations in order to establish the diagnosis and to recommend the appropriate treatment. Then, in the following 20 minutes, the student will formulate in writing positive and differential diagnosis, will propose a therapeutic plan and a plan to prevent the transmission of infectious disease. Then, the student will present the clinical case in front of the colleagues and the group assistant and will argue the established diagnosis and the proposed treatment, receiving a grade from 1-10 from the group assistant. At the end, the lecture coordinator will ask at least one question to each student, from the clinical	20%

		case, in order to validate the grade given by the group assistant.	
Minimum performance standard			
- Minimum 75% attendance at lectures - Carrying out all practical lessons. The absence from the practical lessons can be recovered until the end of the clinical stage, during on-call shifts and consultations. - The minimum passing grade is 5 (five)			

Date of completion:
19.05.2021