

DISCIPLINE SHEET**ACADEMIC YEAR****2022- 2023****1. DATA ABOUT THE STUDY PROGRAM**

1.1 Institution of higher education	UNIVERSITY OF MEDICINE AND PHARMACY OF CRAIOVA
1.2 Faculty	MEDICINE
1.3 Department	2
1.4 Study Domain	HEALTH
1.5 Study cycle	LICENCE
1.6 Study program/ Qualification	MEDICINE

2. DATA ABOUT THE DISCIPLINE

2.1 DISCIPLINE NAME	VIROLOGY		
2.2. Discipline code	MED2207		
2.3 The holder of course activities	Bălăşoiu Maria, Ungureanu Anca, Cristea Oana		
2.4 The holder of seminar activities	Bălăşoiu Maria, Ungureanu Anca Marilena, Cristea Oana, Zlatian Ovidiu Mircea Ghenea Alice, Boldeanu Lidia, Mititelu Răzvan		
2.5. Academic degree	Course: Professor, Conferentiary Lecturer Seminar Activities: Professor, Conferentiary Lecturer, Lecturer, Lecturer, Assitant, Assistent		
2.6. Employment (base norm/associate)	Base norm		
2.7. Year of study	II	2.8. Semester	II
		2.9. Course type (content)	
		2.10. Regime of discipline (compulsoriness)	CFD

3. THE ESTIMATED TOTAL TIME (teaching hours per semester)

3.1 Number of hours per week:	2	3.2 From which: course	1	3.3 seminary/laboratory	1
3.4 Total hours in curriculum:	28	3.5 From which: course	14	3.6 seminary/laboratory:	14
Time found distribution (hours)					
Study from manual, course support, bibliography, and notes					8
Additional documentation in the library, specialized electronic platforms and, on the field					2
Training seminars / labs, homework, reports, portfolios, and essays					4
Tutoring					3
Examinations					4
Other activities, counselling, student scientific programs					1
3.7 Total hours of individual study	22				
3.9 Total hours per semester	50				
3.10 Number of credits	2				

4. PREREQUISITES (where appropriate)

4.1 curriculum	Students must have solid knowledge of anatomy, biochemistry, cell and molecular biology.
4.2 competency	

5. CONDITIONS (where appropriate)

5.1. of curse deployment	Lecture room / online environment
5.2. of seminary/ lab deployment	Laboratory room / online environment

6. SPECIFIC COMPETENCES ACCRUED

PROFESSIONAL COMPETENCE	C1. Identify the bacterial-fungal agents involved in infectious diseases and establish the virological diagnosis based on laboratory investigations.
	C2. Correct assessment of the risk of virus transmission and the occurrence of individual / collective disease, followed by the choice and application of appropriate prophylaxis measures. Knowledge of the measures required to limit the transmission of a viral agent in the event of an epidemic or pandemic.
	C3. The correct choice of chemotherapeutics used in the treatment of infectious diseases with viral etiology. Approaching the health / disease problems from the perspective of the particularities of the community, in direct relation with the social, economic and / or cultural conditions proper to that community.
	C4. Initiation and development of a scientific and / or formative research activity in the field of bacteriology-mycology.

TRANSVERSAL COMPETENCES	<p>CT1. Autonomy and responsibility</p> <ul style="list-style-type: none"> • acquiring moral landmarks, forming professional and civic attitudes, which allow students to be fair, honest, non-conflicting, cooperative, understanding in the face of suffering, available to help people interested in community development; • to know, respect and contribute to the development of moral values and professional ethics; • learn to recognize a problem when it arises and provide responsible solutions to solve it. <p>CT2. Social interaction;</p> <ul style="list-style-type: none"> • to recognize and respect respect for diversity and multiculturalism; • have or learn to develop teamwork skills; • to communicate orally and in writing the requirements, the way of working, the obtained results, to consult with the team; • to get involved in volunteer actions, to know the essential problems of the community. <p>CT3. Personal and professional development</p> <ul style="list-style-type: none"> • be open to lifelong learning, • to be aware of the need for individual study as a basis for personal autonomy and professional development; • to capitalize optimally and creatively on their own potential in collective activities; • know how to use information and communication technology.
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7. DISCIPLINE OBJECTIVES (based on the grid of specific competences acquired)

7.1 The general objective of the discipline	<ul style="list-style-type: none"> - Training students in the knowledge of the etiology and pathogenetic mechanisms of human diseases with infectious etiology, which will be studied in the disciplines of infectious diseases, internal medicine, surgery, obstetrics-gynaecology, pediatrics, dermato-venereology. - Forming a medical thinking of students to create the premises for understanding other preclinical and clinical disciplines - Study of the main genes and pathogenic viral species, involved in human medical and surgical pathology. - Knowledge of the normal and pathological microbiota of man. - Knowledge of methods for preventing, treating and combating human viral infections.
7.2 The specific objectives of the discipline	<p>At the end of the study program, based on the curriculum adapted to European quality standards, through the teaching and assessment methods used, students must have the following cognitive skills and practical skills:</p> <p>COGNITIVE SKILLS</p> <ul style="list-style-type: none"> - describe the morphology and structure of viruses - to know the mechanisms of the infectious process related to the pathogenicity of viruses and the defense mechanisms of the organism; - to be able to distinguish pathogenic from non-pathogenic viral agents in all viruses; - to know the viral genera involved in viral oncogenesis and in persistent viral / prion infections. - to know the structure and mode of action of antiviral chemotherapeutics on viruses; - to know the non-specific and specific means of defense of the human body against viral agents; - to have notions about the active and passive immunoprophylaxis of viral infections <p>PRACTICAL SKILLS</p> <ul style="list-style-type: none"> - to know the methods used in the laboratory diagnosis of infectious diseases (virological diagnosis). Learning the principles of sampling, transport and processing of samples for laboratory examination. - to know the principles of virus isolation and identification. - be able to read and interpret the microbiological analysis report with the clinical significance of a possible pathogen and the choice of appropriate treatment.

8. CONTENTS

8.1 COURSES (CONTENT UNITS)	14 hours
1. General virology: definition, history, viral taxonomy, classification, viral morphology, host cell - virus interactions (lithic, symbiotic), physical and chemical agents actions on viruses.	2
2. Viral Genetics. Pathogenesis of viral infection; types of viral infections; host response to viral infection (non-specific and specific defense mechanisms). Interferons. Active and passive immunoprophylaxis, antiviral chemotherapy.	2
3. Special virology: respiratory tropism viruses (influenza and paragrupal viruses, syncytial respiratory virus, adenoviruses, urine virus, coronaviruses, rhinoviruses).	2
4. Viruses with intestinal tropism (polio viruses, Coxsackie viruses, ECHO, rotaviruses, caliciviruses, Norwalk virus).	2
5. Tropical viruses for skin and mucosa (measles, rubella virus, Herpes viruses, Pox viruses, papillomaviruses).	2

6. Neurotrophic viruses (arboviruses, Hantaviruses, Zika virus, West-Nile virus, Ebola virus, rabies virus, prions, and prion infections). Hepatitis viruses. (I).	2
7. Hepatitis viruses. (II). Retroviruses (HIV, HTLV).	2
REFERENCES 1.Turculeanu Adriana – „Medical Virology”, Ed. Sitech, Craiova, 2017.	
8.2 Practical laboratory (topics / themes)	14 hours
1. Laboratory diagnosis in viral Infections (I). Collection of biological products, their transport and processing. Direct Exam: Electronic Microscope and Serological Techniques. Isolation of host viruses: cell culture, embryonic hen egg, laboratory animals. Viral titration. Identification of viruses isolated by serological examinations (immunofluorescence, ELISA, RIA, PCR) and neutralization test for cytopathic effect or haemagglutinating effect.	2
2. Laboratory diagnosis in viral infections (II). Immunological diagnosis: immunofluorescence, ELISA, RIA, RFC, HAI, HAP, seroneutralization, Western blot, flowcitometry. Laboratory diagnosis in respiratory viruses.	2
3. Laboratory diagnosis in enteroviruses and neuroviruses (rabies virus infection, Zika virus, chronic neurological diseases with viral etiology).	2
4. Laboratory diagnosis in cutaneous mucosal viral infections (herpes virus, pox viruses, eruptive fever viruses, papillomaviruses).	2
5. Laboratory diagnosis of hepatitis virus infections.	2
6. Laboratory diagnosis in HIV infection.	2
7. Review. Restorations.	2
REFERENCES 1.Zlatian Ovidiu, Rosu Lucica, Turculeanu Adriana – “Practical guidebook of virology”, Ed. Sitech, Craiova, Romania, 2014.	

9. CORROBORATING THE DISCIPLINE CONTENT WITH THE EXPECTATIONS OF EPISTEMIC COMMUNITY REPRESENTATIVES, PROFESSIONAL ASSOCIATIONS AND EMPLOYEE REPRESENTATIVES RELATING TO THIS PROGRAM

Microbiology is a fundamental discipline required for a student to become a doctor. Knowledge, practical skills and attitudes learned in this discipline provide the basis for performing the medical act of etiologic diagnosis of infectious diseases based on objective clinical examination and laboratory investigations.

Theory and practical knowledge enables understanding of disease pathogenesis caused by bacterial, viral, parasitic and fungal agents. The results of laboratory investigations specific to etiology help in monitoring the disease progression and therapeutic option with beneficial effect on patient health.

10. METHODOLOGICAL LANDMARKS

Types of activity	Techniques of teaching / learning materials and resources: lecture, interactive group work, brainstorming, learning problems / projects etc.
Course	Teaching based on imaging support (video projector), lecture, heuristic conversation, debate, clinical problems
Practical work	Practical demonstrations, dialogue, presentation of macroscopic and microscopic preparations, control of acquired knowledge, practical applications, problem solving, heuristic conversation
Individual study	The students are gave guidelines about organizing the study time, learning techniques, working memory training and avoiding procrastination.
In special situations (alert state, emergency state and other types of situations which limit the physical presence of people) the activity ca be done also online by using computer platforms agreed by the university. The online educational process will be adapted to ensure the accomplishment of all objectives from the discipline sheet.	

11. RECOVERY PROGRAM

	No. absences that can recover	Location of deployment	Period	In charge	Scheduling of topics
Absences recoveries	3	Discipline Headquarters/ Online environment	Lase week of Semester	Teaching staff of the discipline	Depending on the absences
Schedule consultations Students' circle	2 hours/ week	Discipline Headquarters/ Online environment	Weekly	Teaching staff of the discipline	According to the internal schedule
Program for students poorly trained	2 hours/ semestru	Discipline Headquarters/ Online environment	Last two weeks	Teaching staff of the discipline	According to the internal schedule /Achievement of specific objectives

12. ASSESMENT			
Activity	Types of assesment	Method of evaluation	Percentage from final grade
Lecture	Formative evaluation by random sampling during the semester Summative evaluation at the exam	Exam (oral)/ system „face to face” with on-line video platform	75%
Practical laboratory	Formative assesment during the semester Periodic assesment during the semester Summative assesment in the last week of the semester	Exam (oral)/ system „face to face” with on-line video platform	15%
Periodic assesment			5%
Assesment of individual activities			5%
Minimum performance standard			at least 50% for each component of the evaluation
13. GUIDANCE AND COUNSELLING PROGRAMS			
Professional guidance and counselling programs (2 hours/monthly)			
Scheduling the hours		Location	In charge
Last Friday every month		Discipline headquarters/online	Teaching staff of the discipline

Endorsement date in the department: 27.09.2022

**Department Director,
Prof. Eugen OSIAC**

**Coordinator of study program,
Prof. Marius Eugen CIUREA**

**Discipline holder,
Prof. Maria BĂLĂȘOIU**