SUBJECT OUTLINE

1. Study programme description

1.1.	CAROL DAVILA UNIVERSITY OF MEDICINE AND PHARMACY
1.2.	FACULTY OF MEDICINE
1.3.	PRECLINICAL DEPARTMENT III
1.4.	STUDY SUBJECT: EPIDEMIOLOGY II,
1.5.	FIELD OF STUDY: HEALTHCARE
1.6.	STUDY DEGREE: BACHELOR'S DEGREE
1.7.	STUDY PROGRAMME: MEDICINE

2. Study subject

2.1.	Subject name within the curriculum: EPIDEMIOLOGY				
2.2.	Discipline code:				
2.3.	Subject type (DF/DS/DC): DOD				
2.4.	Subject regime (DOB/DOP/DFA): DOD				
2.5.	Course tenured coordinator: Professor Adriana Pistol				
2.6.	Practicals tenured coordinator: Lecturer Anca Mirela Sîrbu				
2.7. Year of study	VI	2.8. Semester	11-12	2.9. Type of assessment (E/C)	EXAM

3. Total estimated time (hours/semester of didactic activity and of preparation/individual study)

I. University preparation (teaching, practical application, evaluation)						
3.1. Number of hours per week	4	Out of which:	3.2. course	2	3.3. practicals	2
3.4. Total number of hours from curriculum	24	Out of which:	3.5. course	12	3.6. practicals	12
Assessment (no. of hours) : 30 min.						
II. Preparation / individual study 36 hours						
Time distribution						hours
Study of course materials, textbooks, books, minimum recommended references						
Additional documentation in the library, documentation via the internet						
Carrying out specific preparation activities for the project, laboratory, preparation of assignments, reports						
Preparation for presentations or tests, preparation for the final examination						
Consultations						
Other activities						
3.7. Total hours of individual study						
3.9. Total hours per semester (3.4.+ 3.7.)						

3.10. Number of credit points	3

4. Prerequisites (where applicable)

4.1. of curriculum	
4.2. of competencies	

5. Requirements (where applicable)

5.1. for delivering the courses	
5.2. for delivering the practicals	

6. Acquired specific competencies*

Knowledge	Abilities	Responsibility and autonomy
- Understanding determinants of temporal, spatial and social distribution of communicable diseases; - Grasping the fundamental principles underlying the design of epidemiological studies, encompassing cross-sectional, cohort, case-control, and interventional studies; - Comprehending the systematic process involved in investigating an outbreak; - Understanding the systematic process of communicable diseases surveillance; - Understanding standard precautions; - Understanding the scope and principles of the national vaccination program.	- Apply measures to prevent and control the spread of communicable diseases - Optimize the utilization of information sources and resources to enhance communication and support professional development through various platforms such as internet portals, specialized software applications, databases, and online courses.	-Participation in all curricular activities - Participation in surveillance systems - Respect patient safety rules - Respect standard precautions and hand hygiene

7. Subject learning objectives (based on study results)

7.1. General objective	The course program and practical work offer five perspectives on the epidemiology of communicable diseases: basic concepts and methods; epidemiological surveillance and investigation; vaccinations; occupational risk, standard precautions, decontamination and sterilization; general notions about the epidemiology of the most common communicable diseases.
7.2. Specific objectives	At the end of this module, students should be able to: 1) demonstrate an understanding of the determinants of temporal, spatial and social distribution of communicable diseases; 2) demonstrate proficiency in the fundamental principles essential for designing epidemiological studies, encompassing cross-sectional,

	cohort, case-control, and interventional studies; 3) exhibit a comprehensive understanding of the methodologies involved in planning and conducting outbreak investigations; 4) apply standard infection control precautions, including decontamination, disinfection, and sterilization procedures, in accordance with established guidelines; 5) demonstrate competence in planning, implementing, and evaluating vaccination programs, ensuring alignment with national immunization strategies.

8. Contents

8.1. Course	Teaching methods	Observations
C1. Epidemiology – Definitions. Methods and basic processes (2 hours) 1. Introduction, definitions, history, purposes and areas of application 2. Epidemiological process (source of infection, mode and routes of transmission, susceptibility, contributing factors)	Presentation of the course material in an interactive manner, with a Power Point presentation (facilitated by equipping the rooms with a laptop and video projector).	
C2. Prophylaxis (2 hours) 1. Approaching prophylaxis levels in the control of communicable diseases 2. Immunoprophylaxis (definitions, types, general principles of biological used for active/passive immunoprophylaxis, indications and limits, principles of administration).	Presentation of the course material in an interactive manner, with a Power Point presentation (facilitated by equipping the rooms with a laptop and video projector).	
C3. Epidemiological surveillance (2 hours) 1. Definition, role in public health policies, legislation 2. Principles of communicable diseases surveillance 3. Attributes and evaluation of the surveillance systems	Presentation of the course material in an interactive manner, with a Power Point presentation (facilitated by equipping the rooms with a laptop and video projector).	
C4. Surveillance of particular public health problems (2 hours) 1. Surveillance of Healthcare Associated Infections – importance, definitions, legislation, types of surveillance 2. Antibiotic resistance and	Presentation of the course material in an interactive manner, with a Power Point presentation (facilitated by equipping the rooms with a laptop and video projector).	

prudent use of antibiotics – importance, definitions, surveillance		
C5. Disease Occurrence. Infection chain. Impact measures (2 hours) 1. Describe the various forms of disease occurrence: sporadic, endemic, epidemic, and pandemic, providing examples for each. 2. Identify and explain the indicators used to measure the occurrence and impact of communicable diseases, including rates, proportions, and measures like attributable risk and attributable fraction.	Presentation of the course material in an interactive manner, with a Power Point presentation (facilitated by equipping the rooms with a laptop and video projector).	
C6. Outbreak investigation (2 hours) 1. Definition, steps of an outbreak investigation 2. Design of analytical studies used in outbreak investigation 3. Conclusion and results	Presentation of the course material in an interactive manner, with a Power Point presentation (facilitated by equipping the rooms with a laptop and video projector).	

References:

1. Pițigoi D, et al, editors Epidemiologie. Curs și lucrări practice pentru studenți și medici rezidenți. Ed. Revizuită și adăugită. Ed. Univ. Carol Davila, București, 2022
2. David L. Heymann. Controlul bolilor transmisibile, Ed. 20-a București, Editura: Jones & Bartlett Publishers, 2012
3. David L. Heymann. Control of Communicable Diseases Manual, 21st Edition, APHA Press, 2022
4. Gordis L. Epidemiology. 5th Edition: Saunders Elsevier, 2014
5. Walter Orenstein & Paul A. Offit & Kathryn M. Edwards & Stanley A. Plotkin, Plotkin's Vaccines, 7th Edition, 2017
6. CDC. Epidemiology and Prevention of Vaccine-Preventable Diseases, 14th Edition "The Pink Book" https://www.cdc.gov/vaccines/pubs/pinkbook/chapters.html
7. Principles of Epidemiology, second edition, Public Health Service Centres for Diseases Control and Prevention (CDC) Atlanta, Georgia, USA, 2007
8. Cepoi V, Azoicăi D (sub red). Ghid de management al infecțiilor asociate asistenței medicale, ediția a II-a. Ed. Global Management Arte, București, 2017.Universitatea de Medicină și Farmacie "Carol Davila" Bucureşti Comisia pentru asigurarea calității
9. Centrul Național de Supraveghere și Control al Bolilor Transmisibile (CNSCBT). Metodologii de supraveghere. Available online: https://insp.gov.ro/centrul-national-de-supraveghere-si-control-al-bolilor-transmisibile-cnscbt/metodologii/

8.2. Practicals	**Teaching methods**	**Observations**
P1. Control of communicable diseases (2 hours) – measures applied to the determinants of the epidemiological process. Exercises and examples	- Training students to identify control measures for communicable diseases by analyzing determinants of the epidemiological process (using scenarios).	
P2. Passive and active	- Identification and	

immunoprophylaxis (2 hours) 1. Passive immunoprophylaxis. Post-exposure attitude in a potentially tetanogenic wound 2. Active immunoprophylaxis. Vaccination schedule. Vaccines used in the National Vaccination Program	determination, through interactive discussions and exercises, of potentially tetanogenic wounds and the recommended measures in their case - Presentation of the factors considered in establishing and modifying a national vaccination program. Case study - The National Vaccination Program in Romania.	
P3. Active immunoprophylaxis (2 hours) 1. Vaccines recommended for risk groups 2. Optional vaccines	- Presentation of the criteria based on which the risk for vaccine-preventable disease is established. Establishing risk groups and vaccination indications – exercises	
P4. Protection of healthcare workers. Standard precautions (2 hours) 1. Occupational risk. 2. Standard precautions. 3. Protective equipment. 4. Injection safety. 5. Cough etiquette. 6. Safe handling of medical equipment / devices (disinfection, sterilization).	- Presentation of standard precautions. Exercises.	
P5. Accidental exposure to biological products (2 hours) 1. Management of accidental exposure to biological fluids. 2. Hand hygiene – Importance. Recommended techniques. Indications	- Exercises.	
LP6. Outbreak investigation (2 hours) 1. Surveillance exercises 2. Epidemiological investigation exercises – stages of epidemiological investigation	- Exercises related to communicable disease surveillance - Investigating an outbreak - case study.	

References:

1. Pițigoi D, et al, editors Epidemiologie. Curs și lucrări practice pentru studenți și medici rezidenți. Ed. Revizuită și adăugită. Ed. Univ. Carol Davila, București, 2022
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5. CDC. Epidemiology and Prevention of Vaccine-Preventable Diseases, 14th Edition "The Pink Book"

https://www.cdc.gov/vaccines/pubs/pinkbook/chapters.html
6. Centrul Național de Supraveghere și Control al Bolilor Transmisibile (CNSCBT). Metodologii de supraveghere. Available online: https://insp.gov.ro/centrul-national-de-supraveghere-si-control-al-bolilor-transmisibile-cnscbt/metodologii/

9. Assessment

Type of activity	9.1. Assessment criteria	9.2. Assessment methods	9.3. Assessment weight within the final grade
9.4. Course	Correct answers to questions from the course material.	Written exam, multiple choice test with 20 questions, 10 of which having one correct answer and 10 having more than one correct answer, from the course material.	50%
9.5. Practical	Correct answers to questions in the practical work subject.	Written exam, multiple choice test with 10 questions with more than one correct answer, from the practical material.	50%
9.5.1. Individual project (if applicable)			
9.6. Minimum performance standard			
• **Obtaining at least half of the score on the scale established for the multiple-choice test.**			

Date of filling:

Date of approval in Council of the Department: