

**Integrated Academic Studies for Doctor of Medicine, 5 year
Subject: Epidemiology (M5-EPID),
Winter semester 2022/23**

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Link to department web site: <http://www.medical.uns.ac.rs/katedraepidemiologiju.php>

Regulation of exam in epidemiology can be found at:
<http://www.medical.uns.ac.rs/statut.php>

Link to department web site: https://www.mf.uns.ac.rs/katedra.php?Sifra_katedre=7

Contents of the study program of the course Epidemiology:
<https://www.mf.uns.ac.rs/userfiles/File/2014/IASM/EPIDEMIOLOGIJA.pdf>

Link to the bulletin board of the Department of Epidemiology at Sova (News from the Department of Epidemiology): <https://sova.uns.ac.rs/login/index.php>

Link for distance learning on the website of the Institute of Public Health of Vojvodina:
<https://apps.izjzv.org.rs/moodle>

The Faculty of Medicine exam regulations are available at the following address:
<https://www.mf.uns.ac.rs/files/pravilnici/PRAVILNIK%20O%20POLAGANJU%20ISPITA-PRE%20C4%8CI%20C5%A0%20C4%86EN%20TEKST%201.3.2021.pdf>

**List of lecturers on the study program of
Epidemiology**

Prof. dr Gorana Dragovac, MD, PhD
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Assist. prof. dr Jelena Đekić Malbaša, MD, PhD
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**List of teaching assistants on the study program of
Epidemiology**

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Description of subject, goal and purpose of epidemiology program

The main objective of this course is to introduce students with modern medical knowledge of epidemiological science, epidemiological methods and patterns in epidemiology.

Catalogue of knowledge:

After finishing the semester, the student should:

- know the subject and aims of epidemiology
- understand the basic principles of epidemiological surveillance, its objectives, and types of surveillance
- understand the basic characteristics of the descriptive methods and individual studies within it (population and non-population series of cases, case studies, study section)
- understand the basic characteristics of analytical methods and the individual studies within it (case-control and cohort studies)
- understand the basic characteristics of the experiment
- understand the concept of causation in epidemiology
- recognize the importance and types of diagnostic tests
- know to define screening, as well as the organization and types of screening program
- is familiar with the kinds of measurement errors and their significance
- know the characteristics of infective agents
- recognize the importance and characteristics of hospital infections
- know the characteristics and routes of infection (reservoir, source of infection, the input and output places)
- know the types of epidemiological questionnaire and its application
- know the steps of outbreak investigation
- understand the epidemic process and ways of transmission of infectious disease agents
- know the measures for preventing and control of infectious
- know the basic characteristics of outbreaks

- know the basic epidemiological characteristics of respiratory, gastrointestinal, sexually transmitted, vector-borne diseases and zoonoses (importance, frequency, reservoir and source of infection, epidemiological characteristics of major pathogens, routes of transmission, demographic and chronological specificity, prevention and control)
- understand the principles of immunization and have basic knowledge of active and passive immunization (types of vaccine, indications for vaccination, contraindications, vaccines that are applied in our country, organization of immunization, measurement of success)
- know the levels of prevention
- understand the basis for emergencies and biological warfare
- know the basic epidemiological features of cardiovascular, cerebrovascular, cancer, gastrointestinal, endocrine, metabolic, psychiatric, neurological, respiratory diseases and injuries (the importance, frequency, risk factors, levels of prevention)

Catalog of skills

After completing the course students should be able to:

- Understand and independently use the sources of population data, morbidity and mortality
- participate in the epidemiological surveillance
- independently calculate indicators of morbidity (incidence, prevalence)
- independently calculate indicators of mortality (mortality rates, case fatality)
- calculate the parameters of deaths (mortality, case fatality)
- independently calculate general and specific rates
- independently interpret the data obtained by epidemiological surveillance
- understand the advantages and disadvantages of epidemiologic studies (descriptive, analytic, interventional)
- select appropriate research design of the study
- propose the foundations of screening programs
- understand the possible measurement errors in the observed studies

- participate in the surveillance of intra-hospital infections
- set the indications and contraindications for vaccination
- know the calendar of immunization
- Identify the way of spreading an epidemic
- propose measures to prevent the outbreak
- differentiate characteristics of different types of epidemics
- set the indications for HIV testing
- implement Voluntary Confidential Counseling and Testing
- know how to interpret the sensitivity and specificity of diagnostic tests, and positive and negative predictive value
- apply different levels of prevention
- develop a prevention program for certain diseases

Student obligations

Students are obligated to attend theoretical and practical classes and can be excused for no more than 20% of the class (5 lectures or 2.5 double lecture, and 5 lectures or 2.5 double exercises). Students are not obligated to pass other exams (provisional exam) before starting classes in epidemiology, or prior to the examination in epidemiology, except the other obligations foreseen by the Statute of the Medical faculty.

Way of evaluating student work

For passing the exam and giving the final grade on the exam, it must be considered the result of monitoring of students during the classes and the number of points gained in the pre-exam duties. Evaluation of the student's work consider that he understands given examples, content (lecture and literature) and recommended literature sources (classbook, presentations, web-material). From the student is not required to reproduce, but to understand the material.

Fulfilling the pre-exam duties and taking the exam, student can gain maximum of 100 points, i.e.:

1. Presence on theoretical classes – 20 points

2. Presence on practical classes – 30 points
3. Passed final exam – 50 points

Points for each pre-exam duties, i.e., exam will be divided in proportion to student engagement, and demonstrated knowledge.

1. Theoretical class

The presence on theoretical class is valued based on the evidence of the presence of students. Students are expected to come to lectures prepared, to have read the recommended literature, to actively participate in lectures by asking questions and giving answers. Each attendance and activity at lectures carries 1.5 points (maximum 20 points for the entire semester).

2. Active participation in the practical activities (exercise)

The student is obliged to come to the exercises prepared by consulting the literature listed in the syllabus and on-line presentations. The student is obliged to actively participate in the exercises, by joining the discussion, answering questions and solving tasks. By attending exercises, preparation and active participation, the student is entitled to points (maximum 30 points during 13 exercises, or 2.3 points per exercise). Attending the exercises carries with it one point, while additional 1.3 points can be obtained by taking the test, at the beginning of every exercise, that assesses whether the student is prepared for the exercises. The tests will be in a written form (a total of 5 questions), students will do it at the beginning of the exercises and will be evaluated by the assistants who teach the exercises. Educational material that can be used to prepare for exercises (and tests) in the form of presentations (without sound recordings) from general and special epidemiology are posted on the web platform of the Institute of Public Health of Vojvodina: <https://apps.izjzv.org.rs/moodle> (you log in as "guest"). By writing a seminar paper or making a presentation on a given topic, or by other type of completed task given by the teaching assistant, the student can compensate previously lost points in the exercises.

3. Final exam

After attending the theoretical and practical classes, a student who has not missed more than 20% of classes, acquires the right to take the final exam. The final exam consists of a test with 70 questions, 20 of which are from general and 50 from special epidemiology. The number of

correct answers is indicated in the question. If the number of correct answers is not indicated, only one answer is correct. It is considered for student to have passed the exam if he/she has at least 42 correct answers out of the 70 questions offered. Each correct answer in case the student has passed the final exam carries 0.72 points, that is, if the student answers all 70 questions correctly, he wins 50 points on the final test.

The formation of the final grade

The final grade is based on collected points during the semester and the final exam, i.e.:

91 and more points - grade 10 (ten);

81-90 points - grade 9 (nine);

71-80 points - grade 8 (eight);

61-70 points - grade 7 (seven);

51-60 points - grade 6 (six).

The dates of the final exam will be determined later, in accordance with the exam deadlines of the Faculty of Medicine Novi Sad.

Class requirement

From every student is expected to attend theoretical and practical classes.

Student should be prepared for both aspects of class, must read recommended literature and on-line presentations, and do all tasks which are given by teacher or associate. Student should be active during the class and participate in discussions, give answers to questions, do practical tasks individually or in a small group.

Students are expected to regularly visit dedicated website and follow news and activities from the Department of Epidemiology at <https://sova.uns.ac.rs/login/index.php> , to familiarize themselves with the information posted on that page, and to fulfill duties about which is informed through the website.

On-line presentations are available through the link for distance learning (e-learning) on the website of the Institute of Public Health of Vojvodina <https://apps.izjzv.org.rs/moodle> (log in as "guest") as well as other information about taking the exam, which can be seen on that website.

E-mail is the most preferred way of communication. Students can use lecturers' and assistants' e-mails for consultations on certain issues which are not conditioned by the student's presence. Lecturers and assistants will try to reply as soon as possible.

Class content and teaching method implies that student have successfully fulfilled duties from classes from previous years of education, and especially from the Medical Ethic, Medical Statistics and Informatics, Microbiology and Immunology and a foreign language. For certain lectures it is recommended that students refresh they knowledge from similar lectures from other related subjects.

Important notes

Student Rights and Obligations are regulated by statute of Medical Faculty and can be https://www.mf.uns.ac.rs/files/pravilnici/Statut%2002_04_2019.pdf.

Academic dishonesty:

Teachers and assistants on the subject Epidemiology believe that no students would use someone else's work, or other form of knowledge testing to presented as their own. If it happens that some of the students behave dishonestly, i.e., by signing another student who did not attend theoretical or practical classes, or by presenting someone else's work or form of knowledge assessment as his own, even with partial changes, the student will receive zero points from that form of teaching/knowledge assessment. In case of that kind of act the Dean of Medical faculty will be informed with the request to initiate disciplinary procedure against the student.

Student complaints

For all the complaints that the student might have about the classes, lectures' and/or assistants' behavior, evaluation of student work, and other, the student should first contact the chairman of the Department of Epidemiology. In the case where complaints are not possible to resolve with the Chair, the student should contact the Vice-dean for education of the Medical faculty.

Absence from class

The student earns points only for the classes he attends. Justified reasons for absence from classes (illness, participation in student gatherings, taking exams...) are not arguments for receiving points for classes that the student did not attend. If a student has missed between 50 and 80% of classes due to justified reasons, he can, at his personal request, be granted compensation for part of the classes up to 80%, with the prior decision of the Dean and reimbursement of costs.

Study program, required and recommended literature

Lecture plan in epidemiology in the WINTER semester 2022/23.

(from 10/10/2022 to 16/01/2023) for medical students:

Wednesday, Institute for Public Health, from 9:00-12:00 a.m.

Week	Date	Lecturer	Lecture	Lecturer	Lecture
1	12.10.2022.	Prof. dr Gorana Dragovac	Definition and aims of epidemiology. Measures of morbidity and mortality.	Prof. dr Gorana Dragovac	Epidemiological surveillance
2	19.10.2022.	Prof. dr Tihomir Dugandžija	Descriptive study	Prof. dr Tihomir Dugandžija	Cross-sectional study, case- control study
3	26.10.2022.	Prof. dr Tihomir Dugandžija	Cohort study	Prof. dr Tihomir Dugandžija	Experiment
4	02.11.2022.	Prof. dr Tihomir Dugandžija	Epidemiological models	Prof. dr Tihomir Dugandžija	Causation in epidemiology, Diagnostic test
5	09.11.2022.	Prof. dr Gorana Dragovac	Outbreak investigation	Prof. dr Gorana Dragovac	Modes of transmission of communicable diseases. Prevention and control of infectious diseases.
6	16.11.2022.	Prof. dr Gorana Dragovac	Hospital acquired infections	Prof. dr Gorana Dragovac	Hospital acquired infections

7	23.11.2022.	Assist. prof. dr Jelena Đekić Malbaša	Epidemiology of gastrointestinal infectious diseases	Assist. prof. dr Jelena Đekić Malbaša	Epidemiology of zoonoses and vector-borne diseases
8	30.11.2022.	Assist. prof. dr Smiljana Rajčević	Immunization	Assist. prof. dr Smiljana Rajčević	Immunization
9	07.12.2022.	Assist. prof. dr Jelena Đekić Malbaša	Epidemiology of respiratory infectious diseases	Assist. prof. dr Jelena Đekić Malbaša	Epidemiology of sexually transmitted diseases
10	14.12.2022.	Assist. prof. dr Jelena Đekić Malbaša	Levels of prevention	Assist. prof. dr Jelena Đekić Malbaša	Epidemiology of malignant disease
11	21.12.2022.	Assist. prof. dr Jelena Đekić Malbaša	Epidemiology neurological and mental disorders	Assist. prof. dr Jelena Đekić Malbaša	Epidemiology of injury and poisoning
12	11.01.2023.	Assist. prof. dr Smiljana Rajčević	Epidemiology of chronic respiratory and gastrointestinal diseases	Assist. prof. dr Smiljana Rajčević	Epidemiology of cardiovascular and cerebrovascular diseases
13	18.01.2023.	Assist. prof. dr Smiljana Rajčević	Epidemiology of endocrine and metabolic diseases	Assist. prof. dr Smiljana Rajčević	Epidemiology of emergencies

Recommended literature:

1. Heymann D. Control of communicable diseases. Manual. 21st ed. Washington: APHA, 2022.
2. Gordis L. Baltimore: Elsevier, 2004.
3. Benenson AS. Washington: APHA; 1995th
4. Benenson A (editor). Handbook for the prevention and control of infectious diseases. New York: CIM; 2000th
5. Randall E. Harris. Epidemiology of Chronic Disease: Global Perspectives; Jones & Bartlett Learning; 1st edition: 2012

**SCHEDULE OF PRACTICAL TEACHING IN EPIDEMIOLOGY FOR MEDICAL STUDENTS IN THE
AC. YEAR 2022/23.**

**WINTER SEMESTER: 10.10.2022 - 19.01.2023. year
Wednesday, Institute for Public Health, from 9:00-12:00 a.m.**

Week	Date	Topic	Teaching assistant
1.	12/13.10.2022.	Data sources and indicators of morbidity and mortality, Epidemiological surveillance	Assist. dr sc. med. Snežana Medić Assist. dr sc. med. Vladimir Vuković Assist. dr Tatjana Pustahija
2.	19/20.10.2022.	Descriptive method	
3.	26/27.10.2022.	Anamnestic studies	
4.	02/03.11.2022.	Cohort studies and experiment	
5.	09/10.11.2022.	Epidemic survey and epidemiological questionnaire	
6.	16/17.11.2022.	Hospital-acquired infections	
7.	23/24.11.2022.	Hydric and alimentary epidemics	
8.	30.11 i 01.12.2022.	Immunization	
9.	07/08.12.2022.	Respiratory and contact outbreaks	
10.	14/15.12.2022.	HIV infection and other sexually transmitted infections	
11.	21/22.12.2022.	Prevention of mass non-communicable diseases (injuries, malignant diseases, mental illnesses)	
12.	11/12.01.2023.	Prevention of mass non-communicable diseases (cardiovascular, respiratory, endocrinological, metabolic)	
13	18/19.01.2022	Emergency situations and biological weapons	
	25/26.01.2023.	SIGNATURES	

Literature for the practical part (exercise):

- on line presentation on web site of the Institute for Public Health
- literature from lectures
- additional literature provided by the teaching assistants