

SYLLABUS

Concerning the cycle of education **2025- 2031**

Academic year 2026/2027

1. BASIC INFORMATION CONCERNING THIS SUBJECT / MODULE

Subject / Module	Hygiene and Epidemiology
Course code / module *	HE/G
Faculty of (name of the leading direction)	Faculty of Medicine, University of Rzeszow
Department Name	Department of Hygiene and Epidemiology
Field of study	Medicine
Level of education	Uniform Master's Studies
Profile	General academic profile
Form of study	Stationary / extramural
Year and semester	Year II, semester III
Type of course	Obligatory
Language	English
Coordinator	Dr Doerner Oliver
First and Last Name of the Teacher	Dr Doerner Oliver

* - According to the resolutions of the Faculty of Medicine

1.1. Forms of classes, number of hours and ECTS

Lecture	Exercise	Conversation	Laboratory	Seminar	Practical	Self-learning	Number of points ECTS
15	-	-	-	20	-	-	3

1.2. The form of class activities

☒ classes are in the traditional form

☐ classes are implemented using methods and techniques of distance learning

1.3. Examination Forms / module (exam, credit with grade or credit without grade)

2. REQUIREMENTS

Basic information in the field of biology

3. OBJECTIVES, OUTCOMES, AND PROGRAM CONTENT USED IN TEACHING METHODS

3.1. Objectives of this course/module

C ₁	Transfer of basic knowledge about environmental conditions of individual and population health and basic principles of epidemiological analysis over human community.
C ₂	Preparation for recognizing the health effects caused by harmful biological, chemical and physical factors related to the work environment and human existence, as well as familiarizing with the health hazards present at work and the principles of prophylaxis of workplace infections.
C ₃	Transfer of knowledge about the epidemiological situation of selected infectious and non-infectious diseases in the country, in Europe and in the world.
C ₄	Awareness of the occurrence of epidemiological threats.
C ₅	Developing the ability to interpret available demographic and epidemiological data, assessing the scale of health and demographic problems in Polish society.
C ₆	Acquainting with the principles of planning and carrying out epidemiological research (clinical-control, cohort, cross-sectional, ecological, experimental, descriptive).
C ₇	Teaching how to interpret the results of epidemiological studies.
C ₈	Transfer of knowledge about the basic methods of prevention and health promotion.
C ₉	Shaping the understanding of the need to care for our own safety and patients, society.

3.2. Course/Module Learning Outcomes

EK (the effect of education)	The content of the learning effect defined for the subject (module)	Reference to directional effects (KEK)
EK_01	He knows the methods of assessing the health of an individual and population, different classification systems for diseases and medical procedures	G. W1.
EK_02	He knows methods of identification and testing of risk factors, defects and the benefits of different types of epidemiological studies and measures demonstrating the presence of a causal relationship	G. W2.
EK_03	He knows the epidemiology of infectious and chronic diseases, ways to prevent their occurrence at various stages of the natural history of disease and the role of epidemic surveillance	G. W3.
EK_04	Interprets measures of the incidence of disease and disability, assesses the epidemiological situation of diseases commonly found in the country	G. W13.

EK_05	Describes the demographic structure of the population and on this basis assesses the health problems of the population.	G. U1.
-------	---	--------

3.3. Course content

A. Lecture

Course contents
Epidemiological transformation. Current health and demographic problems in the Polish population.
The importance and organization of contemporary prevention of civilization diseases. Environmental determinants of the most common human cancers.
Definitions, causes and sizes of disability.
The importance and organization of modern prevention of infections and infectious diseases. Sanitary-epidemiological supervision - tasks and organization.
Population resistance. Factors affecting population resistance.
Issues of hygiene of human existence. The influence of physical factors in the environment on the human body: electric current, ionizing radiation and non- ionizing radiation. Sound. Ultrasounds. Infrasound. Noise. Vibrations.
Harmful factors in human work and their health effects. Epidemiology of occupational and para-professional diseases.
Types of health hazards present in the doctor's work.

Course contents
Introduction to epidemiology and hygiene. Basic concepts and scopes of research in modern epidemiology and hygiene. Health promotion. Prophylaxis, prevention phases. Epidemiological triad. The importance of selected environmental factors on the health of the individual and population.
Basics of medical demography. Demographic characteristics of the population important in epidemiological analyzes (age, sex, education, place of residence, deaths, births, migrations).
Sources of information on the health status of the population. Death certificate, infectious disease notification card, hospital records. MSKCHiPZ and other classifications. Practical classes: filling in medical records relevant for epidemiological and demographic analyzes, analysis of epidemiological reports and data from the Statistical and Demographic Yearbook, getting acquainted with MSKCHiPZ.
The importance of the interview in epidemiological studies. Principles of building an interview questionnaire for the purpose of disease prevention, search for a causal relationship. Practical classes: development of an interview questionnaire enabling gathering information on risk factors of a selected disease in order to plan preventive action.
Methods for comparing the health status of the population. Negative and positive health measures. Health exposure meters. Practical classes: calculation of selected demographic and epidemiological factors and their interpretation
Modern measures of individual and population quality of life (HDI, YLL, PYLL, PEYLL, CEYLL, SEYLL, DALY, YLD, QALY). Practical classes: assessment and interpretation of selected measures.
Principles of planning epidemiological research. Methods for population selection for epidemiological studies. Types of epidemiological studies. Descriptive research. Practical classes: constructing an epidemiological study plan.
Epidemiological analytical studies: case-control studies, cohort studies. Practical classes: analysis of the results of case-control and cohort studies.
Experimental research. Screening and its application in medicine. Practical classes: assessment of the accuracy of the screening test.
Evidence-based medicine. Practical activity: ranking epidemiological studies according to the reliability and quality of scientific evidence.

Basic concepts used in epidemiology of infectious diseases. The epidemic chain. Source, reservoir of infection. Routes of transmission of infections and infectious diseases. Gates of infection. Methods of preventing infectious diseases. Practical activity: working with the law to determine the doctor's tasks according to the current act on preventing and combating infections and infectious diseases in humans.
Epidemiology of nosocomial infections. Hygiene in healthcare facilities.
Issues of hygiene of human existence. Evaluation of exposure to factors harmful to human health. Air pollution and their impact on human health. The impact of atmospheric pressure changes on the state of human health. The human thermoregulation system and the influence of atmospheric factors on human warmth. Hygiene of water. Soil and its hygienic pollution. Practical activity: selected hygiene standards and their assessment.
Selected issues of food hygiene and nutrition. Food and human health. The importance of nutrition for the balance of biological processes in the human body. Mistakes made in nutrition. Food contaminants and substances added to foods on purpose. Hygienic food evaluation.
Benefits and threats resulting from the presence of genetically modified organisms in the ecosystem
Principles of developing an epidemic focus on the example of food poisoning. Practical classes: the solution of tasks related to the determination of threats related to food poisoning and doctor's tasks in order to reduce the epidemic outbreak.
Epidemiology of acute poisoning, including alcohol, drugs, and other psychoactive substances, heavy metals. Smoking - impact on the health of the individual. Smoking and cancer and cardiovascular disease.
The principles of health promotion with particular emphasis on the knowledge of elements of a healthy lifestyle. Practical task: presentation of current health problems of the Polish population, taking into account the demographic structure of the society.
Epidemiology of selected civilization diseases: cardiovascular diseases, neoplastic diseases, metabolic diseases (diabetes, obesity). Practical classes: Execution in groups of short epidemiological analyzes with the interpretation of measures of the frequency of occurrence of discussed diseases with the assessment of the epidemiological situation with the use of available sources of information.
Incidence and mortality due to selected civilization diseases in Poland against the background of Europe and the world. Practical classes: Performing in groups of short epidemiological comparative analyzes.
Epidemiology of viral hepatitis and tuberculosis. Epidemiology of borreliosis. Practical classes: implementation in groups of short epidemiological analyzes with the interpretation of measures of the frequency of occurrence of the discussed diseases with the assessment of the epidemiological situation with the use of available sources of information.

Current epidemic threats to population health: HIV infection, AIDS, influenza A / H₁N₁, MERS. Practical classes: implementation in groups of short epidemiological analyzes with the interpretation of measures of the frequency of occurrence of the discussed diseases with the assessment of the epidemiological situation with the use of available sources of information.

Incidence and mortality due to selected infectious diseases in Poland against the background of Europe and the world. Practical classes: Performing in groups of short epidemiological comparative analyzes. Summary.

3.4. Methods of Instruction

Lecture: lecture with multimedia presentation

Seminar: individual work at the computer in the field of data search using appropriate databases, group work, discussion, problem solving.

4. METHODS AND EVALUATION CRITERIA

4.1. Methods of verification of learning outcomes

Symbol of effect	Methods of assessment of learning outcomes (Eg.: tests, oral exams, written exams, project reports, observations during classes)	Form of classes
EK_01	knows methods for assessing the health of an individual and population, various systems for classifying diseases and medical procedures	Seminars
EK_02	knows methods of identification and testing of risk factors, advantages and disadvantages of various	Seminars
	types of epidemiological studies and measures demonstrating the presence of causality	
EK_03	knows the epidemiology of infectious and chronic diseases, ways to prevent their occurrence at various stages of the natural history of the disease and the role of epidemic surveillance	Lectures, Seminars
EK_04	interprets measures of disease incidence	Lectures, Seminars
EK_05	and disability, assesses the epidemiological situation of diseases commonly found in the country	Seminars

4.2. Conditions for completing the course

Lecture (EK_03, EK_04.)

Seminar (EK_01, EK_02, UK_03, EK_04, EK_05)

Passing knowledge using the multiple-choice test / MCQ /

Passing skills: correct execution of a practical task.

Conditions for passing the subject

1. Presence on all forms of education.
2. A student may leave only one exercise, one lecture, one seminar (one absence not justified on any form of education), while absences justified with an unjustified student may not exceed 50% of the number of hours conducted in all forms of classes.
3. In the event of unexcused absences and justified absence (medical exemptions, dean's dismissals, documented random accidents), the student is obliged to include knowledge in the form and in the manner indicated by the person conducting the classes.
4. Obtaining a pass (without evaluation) of lectures, exercises and seminars in the scope of the program content provided for the exercises and seminars.
5. Getting a pass (without evaluation) of practical tasks within the scope of the program content provided during the seminars and exercises.
6. Passing the test for a minimum of sufficient. Positive assessment on the test is obtained by a student who has obtained at least 60% of points.
7. In order to verify the effects of education on the exam, the multiple-choice / MCQ / test method is used. For each correct answer, the student gets one point. Points for incorrect answers are not deducted. The following scale is used when issuing grades:

60-67% - grade 3.0;

68-74% - score 3.5;

75-82% - score 4.0;

83-90% - score 4.5;

91-100% - rating 5.

8. Unexcused absence during the examination will result in entering the unsatisfactory grade into the protocol.

9. Absence from the test pass may be justified only by dismissal of medical or rector, dean presented to the manager or the course coordinator within 7 days from the date of the examination.

5. TOTAL STUDENT WORKLOAD REQUIRED TO ACHIEVE THE DESIRED RESULT IN HOURS AND ECTS CREDITS

Activity	Hours / student work
Hours of classes according to plan with the teacher	45
Preparation for classes	40
Participation in the consultations	-
The time to write a paper / essay	-
Preparation for tests	33
Participation in colloquia	2
Other (e-learning)	
SUM OF HOURS	120
TOTAL NUMBER OF ECTS	4

6. TRAINING PRACTICES IN THE SUBJECT / MODUL

Number of hours	-
Rules and forms of apprenticeship	-

7. LITERATURE

1. **Jędrychowski W.:** *Epidemiology in Clinical Medicine and Public Health*. Jagiellonian University Press, Kraków 2010.
2. **Kolarzyk E. (ed.):** *Selected Issues in Hygiene and Human Ecology*. Jagiellonian University Press, 2008.
3. **Beaglehole R., Bonita R., Kjellstrom T.; (ed.) Szeszenia-Dąbrowska N.:** *Basics of Epidemiology*. Institute of Occupational Medicine, Łódź 2002.
4. **Maniecka-Bryła I., Martini-Fiwek J. (eds.):** *Epidemiology with Elements of Biostatistics*. Medical University Press, Łódź 2005.

Acceptance Unit Manager or authorized person

