SUBJECT CARD

Faculty of Medicine and Health Sciences
Field of studies: Medicine
Form of studies: Full-time
Degree: long-cycle Master's program
Specializations: No specialization
Academic year: 2023/2024

HYGIENE AND EPIDEMIOLOGY	
SUBJECT NAME	**Hygiene and epidemiology**
NUMBER OF ECTS POINTS:	2
LANGUAGE OF INSTRUCTION	English
TEACHER(S)	dr Marzena Lipińska dr Anna Pełkowska dr Matylda Wójcik dr Małgorzata Kalemba-Drożdż
PERSON RESPONSIBLE	dr Marzena Lipińska
NUMBER OF HOURS:	
LECTURES:	30
SEMINARS:	15
GENERAL OBJECTIVES	
OBJECTIVE 1:	Preparing the student to use general biological knowledge in practical medicine to determine exposure and environmental threats affecting human health in both living and working environments.
OBJECTIVE 2:	To acquaint the student with the role of epidemiology in medical sciences and health policy of the state and to shape a holistic approach to human in the aspect of activities aimed at strengthening health.
OBJECTIVE 3:	Preparing the student to use the knowledge of the epidemiological situation of common diseases in the country, the intensity of phenomena at the doctor's work.
OBJECTIVE 4:	Preparing the student to assess the occurrence of threats in the workplace in order to take actions to prevent the spread of infections and infectious diseases in the daily work of the doctor.
LEARNING OUTCOMES	
MW1:	Knowledge: To list the branches of epidemiology; to list the aims and tasks of epidemiology; to characterize general epidemic laws

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MW2:	Knowledge: To distinguish features of the population structure relevant in medicine
MW3:	Knowledge: To classify types of epidemiological studies; to describe the pros and cons of various epidemiological studies; to explain the concept of placebo and blind trial; to list research tools used in epidemiology; to list errors of the interviewer and respondent in the course of the interview
MW4:	Knowledge: To describe differences between prevalence and incidence rates; to choose and use appropriate epidemiological indicators/measures to describe health phenomena; to interpret types of incidence and prevalence rates trends
MW5:	Knowledge: To present sources of information on the state of health of the population
MW6:	Knowledge: To list and describe measures of health
MW7:	Knowledge: To present the structure of epidemiological surveillance in Poland; to define the role of sanitary inspection in epidemiological surveillance
MW8:	Knowledge: To explain the usefulness of screening studies in health care protection
MW9:	Knowledge: To characterize food ingredients, to discuss their role in the human body; to analyze factors determining the nutritional status disorders
MW10:	Knowledge: To discuss addiction mechanisms and addiction prophylaxis
MW11:	Knowledge: To characterize risk factors and pathways of infection in healthcare facilities; to list activities related to the prevention of hospital infections; to explain the rules of post-exposure procedures on potentially infectious biological material
MW12:	Knowledge: To identify and characterize bloodborne infections; to describe preventive actions
MW13:	Knowledge: To list the environmental physical factors affecting the human body and to discuss their effects
MW14:	Knowledge: To explain the types and causes of occupational diseases; to list occupational diseases in medical professions
MU1:	To use population information sources to assess causes influencing health of population
MU2:	To construct an interview questionnaire in relation to a patient with a given disease unit; to present the pros and cons of using the self-response questionnaire and the standardized interview
MU3:	To select appropriate measure of disease frequency in the population depending on the subject and purpose of the study
MU4:	To conduct an epidemiological investigation; to develop an epidemic outbreak in the case of infectious diseases and infections

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MU5:	To recognize individual forms of nosocomial infections; to register hospital infection - to fill in registration card; to differentiate nosocomial and of-hospital infection; to apply the principles of aseptics and antiseptics in medical practice
MU6:	To apply personal protective equipment in the right way
INTRODUCTORY REQUIREMENTS	
1.	Knowledge of basic statistics
COURSE PROGRAM	DESCRIPTION
LECTURE 1:	Role and applications of epidemiology: (a) divisions of epidemiology, (b) aims and tasks of epidemiology, (c) general epidemiologic laws (2h)
LECTURE 2:	Medical demography: (a) information sources on population, (b) characteristics of population structure important in medicine. Measures of health status (2h)
LECTURE 3:	Data sources on health status in population (2h)
LECTURE 4:	Epidemiological studies: (a) division, types and characteristics of studies, (b) strengths and weaknesses of different studies, (c) steps in planning of the study, (d) methods and tools used in epidemiology (3h)
LECTURE 5:	Studies of the spread of diseases: (a) classification and diagnosis of diseases, (b) epidemiological measures of disease spread (prevalence, incidence), types of trends (c) aspects of older population studies (3h)
LECTURE 6:	Methods of studies in environmental and clinical epidemiology (retrospective and prospective studies, case-control and cohort studies, odds ratio, relative and attributable risk, bias sources) (3h)
LECTURE 7:	Role of experimental studies in medicine: a) study types, b) methods of randomization, c) placebo, blinded trial (3h)
LECTURE 8:	Principles and practice of screening for disease. Does secondary prevention method improve clinical/public health outcome? (2h)
LECTURE 9:	Occupational diseases on example of allergic occupational diseases. Preventive actions in the work environment (2h)
LECTURE 10:	Hygiene of food and nutrition: a) human energy metabolism and requirements, b) food sources of energy and their energy equivalents, c) basic metabolism, d) food ingredients and their role in the human body, e) food products division, f) assessment of nutritional status and diet (4h)

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LECTURE 11:	Occupational hygiene: a) hazards at the workplace, harmful factors b) static and dynamic work load, psychological burden (4h)
SEMINAR 1:	Concepts in Infectious Disease Epidemiology. Types of outbreaks. Essential steps in an outbreak investigation; Examples of a COVID-19 and food poisoning. The structure of epidemiological supervision in Poland. The role of sanitary inspection in epidemiological supervision. (3h)
SEMINAR 2:	Planning of epidemiological study (formulation of hypothesis, selection of population, choice of sample size, types and structure of questionnaires, ethical aspects) (3h)
SEMINAR 3:	Influence of environmental factors on human organism (noise, vibrations, lighting, electromagnetic field) (2h)
SEMINAR 4:	Healthcare Associated Infections (HAI): definition, risk factors, reservoirs, transmission routes, surveillance; Reporting of HAI - principles and practice; Preventing HAI – infection control methods. (3h)
SEMINAR 5:	Epidemiology and prevention of occupational exposures to blood borne infections; Principals of post-exposure prophylaxis, reporting of exposures with the use of adequate case studies. (2h)
SEMINAR 6:	Occupational diseases: a) hazards in the work environment: accidents at work, b) case law, c) principles of ergonomics and occupational prevention (2h)
DIDACTIC METHODS (APPLIED)	DESCRIPTION
	Discussion Work in groups Work with the textbook Multimedia presentations Lectures Case study
STUDENTS WORKLOAD:	
CONTACT HOURS WITH THE ACADEMIC TEACHER	45 hours
HOURS WITHOUT THE PARTICIPATION OF THE ACADEMIC TEACHER	Preparation for classes: 2 hours Preparation of report, presentation, medical history: 6 hours Preparation for the exam: 7 hours
TOTAL NUMBER OF HOURS FOR THE COURSE	60 hours
CONDITIONS FOR COURSE COMPLETION	

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	The whole course is performed as lectures and seminars, which both are obligatory for students for attendance. The condition of admission to the final test is passing all the scheduled seminars (i.e. oral presentation, prepared questionnaire). Student may receive a distinction in the form of an additional points on the final test for very good preparation to the seminar. Student who has not completed the seminars is not eligible to seat the exam on the first term and must compensate for the missed material before the second term exam. The final test contains 55 questions about Hygiene and Epidemiology. Condition for passing the subject is gaining a minimum of 55% of the points on the written test. Condition for awarding on test with additional points (achieved during seminar) is to gain at least 55% of points. In the case of failure to pass, students have the right to take the retake exam on the principles set out in the Regulations of Studies of the AFM Krakow University.
METHODS OF ASSESMENT:	
IN TERMS OF KNOWLEDGE:	Report from the results of an epidemiological study. Discussion on the methodology of the epidemiological study. The presentation of steps in planning of epidemiological study
IN TERMS OF SKILLS:	Preparation of an interview questionnaire in relation to a patient with a given disease unit
FORMATIVE:	
SUMMATIVE (I & II)	EXAM: Multiple choice test - 55 questions RETAKE EXAM: Test with open questions/oral exam
GRADING SCALE	
3,0 (Satisfactory)	30 - 33 points
3,5 (Satisfactory plus)	34 - 38 points
4,0 (Good)	39 - 43 points
4,5 (Good plus)	44 - 49 points
5,0 (Very Good)	50 - 55 points
BASIC LITERATURE	
1.	Merril RM., Introduction to epidemiology. 8th Ed. Jones&Barlett Learning, 2021.
2.	Webb P., Bain Ch., Page A. Essential Epidemiology. An Introduction for Students and Health Professionals. 4th edition, Cambridge University Press, 2020

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3.	Fletcher GS. Clinical Epidemiology: The Essentials. 6th Ed. Lippincott® Connect 2020.
SUPPLEMENTARY LITERATURE	
1.	Friis RH, Sellers TA. Epidemiology for Public Health Practice. 6th Ed. Jones&Barlett Learning 2021.
2.	Aschengrau A, Seage GR. Essentials of Epidemiology in Public Health. 4th Ed. Jones and Barlett Learning, 2018.
3.	Dominiczak M (Ed.). Crash Course: Metabolism and Nutrition. 5th Ed. Elsevier, 2019.