

Karta przedmiotu / Course description

Cz. 1 / Part 1

Informacje ogólne o przedmiocie / General information about the course	
1. Kierunek studiów / Major of study: medicine	2. Poziom kształcenia / Study level: unified MSc 3. Forma studiów / Form of study: intramural
4. Rok / Year: 2	5. Semestr / Semester: 4
6. Nazwa przedmiotu / Course name: Public Health, Epidemiology, Biostatistics	
7. Status przedmiotu / Course status: required	
8. Treści programowe przedmiotu i przypisane do nich efekty uczenia się Course contents and assigned learning outcomes <p>The course curriculum is composed of three subjects: public health, epidemiology and biostatistics. The goals of the course is to teach students:</p> <p>a) the concepts, role and application of public health programs in health care systems and health policy on national and international levels (health care systems, legislation and regulatory procedures, health monitoring of the population, setting evidence-based priorities for health promotion and prevention, organization, implementation and evaluation of population-based preventive measures and health promotion programs, principles of health economics)</p> <p>b) the concepts, role and application of epidemiology in health research and public health programs (history and current scope of epidemiology, role of epidemiology in the development of medical sciences, goals and scientific tools of descriptive epidemiology, goals and scientific tools of analytical epidemiology, definition of risk and confounding factors, assessment of cause-effect relationships, subject-oriented epidemiology, clinical epidemiology)</p> <p>c) the concepts, role and application of biostatistics in medical research (the concept of between-subject and within-subject variability and co-variability in analysis of biomedical data; control of confounding in data analysis; summarizing, collecting, presenting and interpreting data generated within medical research; choice of a proper method of data analysis including testing hypotheses; application of basic models of multivariate analysis including survival analysis)</p> <p>Efekty uczenia się/odniesienie do efektów uczenia się zawartych w standardach Learning outcomes / reference to learning outcomes indicated in the standards</p> <p>w zakresie wiedzy student zna i rozumie / For knowledge – student knows and understands:</p> <p>G.W4 Concept of public health, its definition and goals, structure and functions of health care systems on national and global levels, impact of economics on health care delivery</p> <p>G.W5 Legal regulations regarding provision of health care, patients' law, labour law, legal frame of professional activities of physicians, functioning of physicians' self-government</p> <p>G.W6 Basic legal regulations regarding organization and financing of health care system an general health insurance programs, organization of health delivery institutions</p> <p>G.W8 Legal regulations and basic methods of medical experiments and other medical research projects, including basic methods of data analysis</p> <p>G.W1 Methods of assessment of health on individual and population level , various classifications of disease and medical procedures</p> <p>G.W2 Method of investigations of risk factors, strengths and weaknesses of various schemes of epidemiological studies, measures suggestive of the presence of cause-effect relationship</p>	

G.W3 Epidemiology of infectious and chronic diseases, preventive measures reflecting various stages of the natural history of diseases, role of health surveillance

B.W27 Principal methods of statistical analysis used in population based research and clinical research

w zakresie umiejętności student potrafi / *For skills student can do:*

G.U1 Describe demographic structure of the population and apply results thereof in the assessment of health problems of populations

G.U2 Collect information on the occurrence of risk factors of infectious and chronic diseases and design preventive measures, on various levels of prevention

G.U3 Interpret measures of prevalence of diseases and disabilities

G.U4 Assess the epidemiological situation regarding common diseases in Republic of Poland and on the global scale

B.U11 Choice of a pertinent statistical test, application of basic statistical analyses, implementation of appropriate methods of presentation of the results, interpretation of the results of metaanalysis, implementation of survival analysis

B.U12 Explain differences between prospective and retrospective study designs, randomized studies, case-control studies, case reports and experimental projects, scientific evidence-based ranking of reliability and power of proof of different study designs

B.U13 Plan and implement basic medical research project, interpret its results and formulate conclusions

w zakresie kompetencji społecznych student jest gotów do / *For social competencies student is ready to:*

collaborate with other health professionals in teams active in the field of health promotion, health prevention and in scientific teams implementing medical research study, participate in a research report preparation

9. liczba godzin z przedmiotu / <i>Number of hours for the course</i>	40
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10. liczba punktów ECTS dla przedmiotu / <i>Number of ECTS points for the course</i>	5
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11. Sposoby weryfikacji i oceny efektów uczenia się / <i>Methods of verification and evaluation of learning outcomes</i>		
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Efekty uczenia się <i>Learning outcomes</i>	Sposoby weryfikacji <i>Methods of verification</i>	Sposoby oceny* <i>Methods of evaluation*</i>
W zakresie wiedzy <i>Knowledge</i>	Sprawdzian pisemny – pytania otwarte <i>Written evaluation – open questions</i> Zaliczenie na ocenę – test wyboru <i>Grade credit – MCQ</i>	*
W zakresie umiejętności <i>Skills</i>	Sprawozdanie / <i>Report</i> Obserwacja / <i>Observation</i> Egzamin praktyczny / <i>Practical exam</i>	*
W zakresie kompetencji <i>Competencies</i>	Obserwacja / <i>Observation</i>	*

* zakłada się, że ocena oznacza na poziomie / *The following evaluation system has been assumed:*

Bardzo dobry (5,0) – zakładane efekty uczenia się zostały osiągnięte i w znacznym stopniu przekraczają wymagany poziom

Very good (5,0) – *the assumed learning outcomes have been achieved and significantly exceed the required level*

Ponad dobry (4,5) – zakładane efekty uczenia się zostały osiągnięte i w niewielkim stopniu przekraczają wymagany poziom

Better than good (4,5) – the assumed learning outcomes have been achieved and slightly exceed the required level

Dobry (4,0) – zakładane efekty uczenia się zostały osiągnięte na wymaganym poziomie

Good (4,0) – the assumed learning outcomes have been achieved at the required level

Dość dobry (3,5) – zakładane efekty uczenia się zostały osiągnięte na średnim wymaganym poziomie

Better than satisfactory (3,5) – the assumed learning outcomes have been achieved at the average required level

Dostateczny (3,0) – zakładane efekty uczenia się zostały osiągnięte na minimalnym wymaganym poziomie

Satisfactory (3,0) – the assumed learning outcomes have been achieved at the minimum required level

Niedostateczny (2,0) – zakładane efekty uczenia się nie zostały uzyskane

Unsatisfactory (2,0) – the assumed learning outcomes have not been achieved

Karta przedmiotu / Course description

Cz. 2 / Part 2

Inne przydatne informacje o przedmiocie / Other useful information about the course		
12. Jednostka realizująca przedmiot, adres, e-mail: Name of Department, mailing address, e-mail: Department of Epidemiology, 18 Medyków St., 40-752 Katowice, PL / +48 (32) 2088 536 / e-mail: epikat@sum.edu.pl		
13. Imię i nazwisko osoby odpowiedzialnej za realizację przedmiotu: Name of the course coordinator: Professor Jan E. Zejda, MD, PhD		
14. Wymagania wstępne w zakresie wiedzy, umiejętności i innych kompetencji: Prerequisites for knowledge, skills and other competencies: None		
15. Liczebność grup / Number of students in groups	Zgodna z uchwałą Senatu SUM / In accordance with the Senate Resolution	
16. Materiały do zajęć / Study materials	Textbooks (as indicated in the "Readings" (see below))	
17. Miejsce odbywania się zajęć / Location of classes	Department of Epidemiology, 18 Medyków St., 40-752 Katowice	
18. Miejsce i godzina konsultacji / Location and time for contact hours	Department of Epidemiology, 18 Medyków St., 40-752 Katowice, 9:00-12:00	
19. Efekty uczenia się / Learning outcomes		
Numer przedmiotowego efektu uczenia się Number of the course learning outcome	Przedmiotowe efekty uczenia się / Course learning outcomes	Odniesienie do efektów uczenia się zawartych w standardach Reference to learning outcomes indicated in the standards
P_W01 / C_K01	Definition, history and core functions of modern public health	G.W4
P_W02 / C_K02	International and national institutions of public health	G.W4
P_W03 / C_K03	Health care systems – national and international perspective	G.W6
P_W04 / C_K04	Organization of public health care in Poland	G.W5, G.W6
P_W05 / C_K05	Population-based health promotion	G.W1, G.W2
P_W06 / C_K06	Population-based prevention of major diseases	G.W3
P_W07 / C_K07	Definition, history and core functions of epidemiology	G.W3

P_W08 / C_K08	Contribution of epidemiology to medical research	G.W3
P_W09 / C_K09	Source of data in epidemiological studies	G.W1, G.W2, G.W3
P_W10 / C_K10	Study designs in descriptive epidemiology	G.W2, G.W8
P_W11 / C_K11	Study designs in analytical epidemiology	G.W2, G.W8
P_W12 / C_K12	Criteria of causation in epidemiologic research	G.W2
P_W13 / C_K13	Validity of epidemiological findings	G.W2
P_W14 / C_K14	Clinical trials – methods, implementation, interpretation	G.W8
P_W15 / C_K15	Environmental epidemiology	G.W3
P_W16 / C_K16	Epidemiology of major chronic noninfectious diseases	G.W3
P_W17 / C_K17	Epidemiology of major infectious diseases	G.W3
P_W18 / C_K18	Definition and application of biostatistics	B.W27
P_W19 / C_K19	Data sets, type of variables, distributions	B.W27
P_W20 / C_K20	Methods of estimation	B.W27
P_W21 / C_K21	Hypotheses: difference, association, statistical significance	B.W27
P_W22 / C_K22	Regression techniques: simple and multivariate models	B.W27
P_W23 / C_K23	Statistical assessment of diagnostic tests including screening tests	B.W27
P_W24 / C_K24	Application of survival analysis	B.W27
P_U01 / C_S01	Monitoring of the health status of population	G.U1, G.U2, G.U3
P_U02 / C_S02	Screening: choice of disease, choice of screening test	G.U2
P_U03 / C_S03	Research protocol: study justification, objective, sample selection	B.U12, B.U13
P_U04 / C_S04	Research protocol: methods, discussion	B.U12, B.U13
P_U05 / C_S05	Statistical inference on means	B.U11
P_U06 / C_S06	Statistical inference on proportions	B.U11
P_U07 / C_S07	Parametric and nonparametric tests of differences: quantitative variables, qualitative variables	B.U11
P_U08 / C_S08	Tests of associations: quantitative variables, qualitative variables	B.U11
20. Formy i tematy zajęć / Forms and topics of classes		Application of survival analysis
21.1. Wykłady / Lectures		10
Introduction to Public Health		2
Epidemiology and its contribution to medical research		2
Population – based prevention and health promotion		2
Introduction to biostatistics – Part I		2
Introduction to biostatistics – Part II		2
22.2. Seminaria / Seminars		0
23.3. Cwiczenia / Labs		30
Assessment of population health status – descriptive epidemiology (basic measures of health and disease)		2
Assessment of population health status		2
Standardization: direct age–adjustment of mortality rates		2
Assessment of population health status – analytical epidemiology (types of epidemiological studies – ecological and cohort)		2

Environmental burden of disease	2
Assessment of population health status – analytical epidemiology (types of epidemiological studies – case-control, RR, OR)	2
Randomized controlled clinical trial	2
Evaluating a diagnostic/screening test	2
Bias and confounders in epidemiological studies	2
Tests of statistical significance (continuous and categorical variables)	2
Epidemiology of infectious diseases	2
Types of variables, distribution, analysis of correlations	2
Evidence Based Medicine	2
Association and causation in medicine. Hill's Criteria	2
Public Health, historical background, the main targets and tasks	2
24. Literatura / Readings	
Beaglehole T. et al.: Basic Epidemiology. WHO, Geneva	
Swinscow T.D.V.: Statistics at square one. BMJ Book 2002. Available through "Free Medical Books" at http://www.e-booksdirectory.com/details.php?ebook=1785	
25. Kryteria oceny – szczegóły / Detail evaluation criteria	
Zgodnie z zaleceniami organów kontrolujących / In accordance with the recommendations of the inspection bodies	
Zaliczenie przedmiotu - student osiągnął zakładane efekty uczenia się / Completion of the course – student has achieved the assumed learning outcomes	
Szczegółowe kryteria zaliczenia i oceny z przedmiotu są zamieszczone w regulaminie przedmiotu / Detail criteria for completion and evaluation of the course are specified in the course regulations	