Course description

Part 1

General information about the course	
1. Major of study: medicine	**2. Study level:** unified MSc
	3. Form of study: intramural
4. Year: IV	**5. Semester**: according to the schedule

6. Course name: Biostatistics
7. Course status: required

8. Course objectives

Basic IT and biostatistical tools used in medicine, including medical databases, spreadsheets, basic methods of statistical analysis, basics of computer graphics; proper selection the study group; formulating research hypotheses; using basic statistical programs; the ability to critically analyze the literature; ability to work in as a team.

Learning outcomes / reference to learning outcomes indicated in (underline as appropriate):

education standards (Regulation of the Ministry of Science and Higher Education) / Resolution of the Senate of the Medical University of Silesia (indicate terms specified in education standards / signs of learning outcomes approved by the Resolution of the Senate of the Medical University of Silesia)

For knowledge – student knows and understands: B.W26, B.W27, B.W28, B.W29

For skills student can do B.U10, B.U11, B.U13, D.U17

For social competencies student is ready to: D.W18, D.U12, D.U13, D.U16

9. Number of hours for the course	24	**10. Number of ECTS points for the course**	2

11. Form of evaluation: credit		

12. Methods of verification and evaluation of learning outcomes		
Learning outcomes	**Methods of verification**	**Methods of evaluation*/ credit**
Knowledge	Written evaluation – open questions Grade credit – MCQ **Summary methods:** Written exam / test exam	*
Skills	Observation	*
Competencies	Observation	*

* For exams and grade credits the following evaluation system has been assumed:

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

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

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

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

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

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

Course description

Part 2

Other useful information concerning the course		
13. Department conducting the course, address, e-mail address: Department of Epidemiology, 18 Medyków St., 40-752 Katowice, epikat@sum.edu.pl		
14. Course Coordinator: Professor Grzegorz Brożek, MD, PhD		
15. Prerequisites in terms of knowledge, skills and other competences: No requirements for prior skills and/or competencies		
16. Group size	In accordance with the SUM Senate Resolution	
17. Teaching materials	Presentation, recommended books	
18. Location of classes	18 Medyków St., 40-752 Katowice, Building c2, I floor, classroom 105 8b Medyków St., Center of Didactics and Medical Simulation, classroom 106	
19. Location and time of office hours	Building C3, IV floor, 9:00 – 12.00	
20. Learning outcomes		

Number of the course learning outcome	Course learning outcomes	Reference to the learning outcome included in the standards
In terms of knowledge:		
C_K01	Basic computer and biostatistical tools used in medicine, including medical databases, spreadsheets and basic computer graphics	B.W26
C_K02	Basic methods of statistical analysis used in population and diagnostic studies	B.W27
C_K03	The possibilities of modern telemedicine as a tool to support the work of a doctor	B.W28
C_K04	Principles of conducting scientific, observational and experimental research and in vitro research for the development of medicine	B.W29
In terms of skills:		
C_S01	Use databases, including online ones, and search for the information you need using available tools	B.U10
C_S02	Select an appropriate statistical test, perform basic statistical analyses, use appropriate methods of reporting results, interpret the results of a meta-analysis, and perform a probability analysis of survival	B.U11
C_S03	Plan and perform simple scientific research and interpret their results and draw conclusions	B.U13
C_S04	Use basic psychological interventions that motivate and support	D.U17
In terms of social competencies:		
C_C01	Rules of work in team	D.W18
C_C02	Communicate with colleagues, providing feedback and support	D.U12
C_C03	Adhere to ethical standards in professional activities	D.U13
C_C04	Demonstrate responsibility for improving their qualifications and passing on knowledge to others	D.U16
21. Forms and subjects of classes		**Number**

	of hours
21.1. Lectures	**4**
Survival analysis	2
Multivariate Analysis	2
21.2. Seminars	**5**
Descriptive statistics	2
Statistical tests of difference	2
Statistical tests of association	1
Multivariate Analysis	1
21.3. Labs	**15**
Descriptive statistics	2
Statistical tests of difference	2
Statistical tests of association	3
Multivariate Analysis	3
22. Literature	

Required literature:
  A. Petrie, C. Sabin.: Medical statistics at a glance
  B. P. Armitage, G Berry.: Statistical Methods in Medical Research
Supporting literature:
UCLA Statistics & Data Science https://stats.oarc.ucla.edu/sas/	

23. Assessment criteria - details	
Final test: Multiple Choice Questions	