



Biostatistics

Educational subject description sheet

Basic information

Organizational unit Faculty of Medicine	Didactic cycle 2021/22	
Field of study Medicine, Program in English	Realization year 2023/24	
Study level long-cycle master's degree program	Lecture languages english	
Study form full-time	Block obligatory for passing in the course of studies	
Education profile general academic	Mandatory elective	
Disciplines Medical science	Examination graded credit	
Subject related to scientific research Tak	Standard group C. Preclinical course	
Subject coordinator	Monika Piwowar	
Lecturer	The full list of lecturers is available on the website usosweb.uj.edu.pl in the tab Directory → Courses.	
Periods Semester 5, Semester 6	Examination graded credit	Number of ECTS points 2.0
	Activities and hours seminar: 10 classes: 20	

Goals

C1	Teaching statistical inference
C2	Using medical databases
C3	Operations using statistical software
C4	Presentation of the results obtained

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge - Student knows and understands:			
W1	methods of conducting scientific research	O.W5	classroom observation, project
Skills - Student can:			
U1	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation
Social competences - Student is ready to:			
K1	formulate conclusions from own measurements or observations	O.K8	project
K2	use objective sources of information	O.K7	project

Calculation of ECTS points

Activity form	Activity hours*
seminar	10
classes	20
preparation of a report	15
preparation of a project	15
Student workload	Hours 60
Workload involving teacher	Hours 30
Practical workload	Hours 20

* hour means 45 minutes

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Introduction to statistical software	W1, U1	classes, seminar
2.	Descriptive statistics	W1, U1	classes, seminar
3.	Student's t-test, U Mann-Whitney test (Mann-Whitney-Wilcoxon test)	W1, U1	classes, seminar
4.	ANOVA, Kruskal-Wallis test	W1, U1	classes, seminar
5.	Pearson and Spearman correlation	W1, U1	classes, seminar
6.	Linear regression	W1, U1	classes, seminar

7.	Chi-square	W1, U1	classes, seminar
8.	Survival analysis	W1, U1	classes, seminar
9.	Graphical presentation of the data 1	W1, U1	classes, seminar
10.	Graphical presentation of the data 2	W1, U1	classes, seminar
11.	Final Project - 1	W1, U1	classes
12.	Final Project - 2	W1, U1, K1, K2	classes
13.	Final Project - 3	W1, U1, K1, K2	classes
14.	Presentation of student projects	W1, K1, K2	seminar
15.	Presentation of student projects	W1, K1, K2	seminar

Course advanced

Teaching methods:

computer classes, demonstration, discussion, e-learning, project method, group work, computer room, seminar

Activities	Examination methods	Credit conditions
seminar	project	Assessment of the presentation of the student project
classes	classroom observation, project	Evaluation of class reports and final project.

Entry requirements

no initial requirements

Literature

Obligatory

1. "Introduction to R" <https://cran.r-project.org/doc/manuals/r-release/R-intro.pdf>
2. Daniell W., Biostatistics: A Foundation for Analysis in the Health Science, John Wiley, New York, 2009

Kierunkowe efekty uczenia się

Kod	Treść
O.K7	use impartial sources of information
O.K8	draw conclusions from own measurements or observations
O.U9	critically evaluate scientific findings and properly substantiate
O.W5	methods of conducting scientific research