Course syllabus

1. Core data

Course code	Credits	Semester
4ST14NAK10B	3	2024/25/2

Course title in Hungarian	
Statistics	

Course title in English	
Statistics	

Course title in other language	

Course leader	Institute
Kovács László	Institute of Data Analytics and Information Systems

Language of instruction	Type of final assessment
English	Exam

Number of theoretical classes per week (full-time programmes)	Number of practical classes per week (full-time programmes)
0	2

Number of theoretical classes per semester (part-time programmes)	Number of practical classes per semester (part-time programmes)
0	0

Available for preferential study schedule	
Yes	

2. Main features

Course objectives
The aim of this course is to familiarize students with fundamental statistical tools and enable them to proficiently apply these tools in determining and interpreting statistical data and indicators essential for their professional practice. The course covers the principles of statistical data acquisition and analysis, the toolkit of descriptive statistics, and its practical applications. Special emphasis is placed on equipping students to utilize the introduced methodologies in solving practical problems. The Excel program is used as a supplementary tool in the instruction.

Brief description of the course
The course syllabus covers the fundamentals of data management and visualization in Excel, along with the toolkit of relative indicators. Students will be introduced to the tools and metrics of descriptive and inferential statistics, and will subsequently apply these to the field of statistical relationship analysis.

Relationship with other courses of the programme
The course lays the foundation for the use of methods encountered across a broad spectrum of specialized subjects (e.g., multivariate data analysis, social research) and supports master's level education.

3. Learning outcomes

Skill	Knowledge	Attitude	Autonomy and Responsibility
The student is able to use simple analytics tools (ratios, graphic representation)	The student knows the basic concepts of statistics	By the end of the semester, the student strives to approach statistical problems from multiple perspectives. The course fosters a demand for precision in data analysis.	Under general professional supervision, the student independently performs analytical tasks. They identify their own errors, demonstrate the ability to self-review, and independently correct mistakes. When solving analytical tasks, they
	The student knows the methods of data acquisition and data utilization		
	The student knows the system and relationships of ratios		

			independently select and apply relevant problem-solving methods, assess, assume, and manage the responsibility that the results obtained during analyses and practical procedures are also influenced by the chosen method.
The student is able to process and interpret data tables	The student knows the basic concepts of statistics		
	The student knows the methods of data acquisition and data utilization		
	The student knows the basic descriptive statistical indicators (quantiles, location indicators, dispersion indicators, shape indicators)		
The student is able to analyze data using various statistical indicators and measures	The student knows the basic descriptive statistical indicators (quantiles, location indicators, dispersion indicators, shape indicators)		
The student is able to explore relationships between variables	The student knows the concept, types and theoretical and practical possibilities of characterizing the relationship between variables		
The student is able to interpret the results of inferential statistics	The student knows the basics of inferential statistics (interval estimation and hypothesis testing)		
The student is able to eliminate incorrect conclusions from the results of statistical analysis	The student knows the system and relationships of ratios		
	The student knows the basic descriptive statistical indicators (quantiles, location indicators, dispersion indicators, shape indicators)		
	The student knows the concept, types and theoretical and practical possibilities of characterizing the relationship between variables		
	The student knows the basics of inferential statistics (interval estimation and hypothesis testing)		
The student is able to use the Excel program to solve statistical problems	The student knows the tools of the Excel program that can be utilized in solving statistical problems		

4. Mandatory readings

Required literature	URL
Foster, L. - Diamond, I. - Banton, J.: Beginning statistics: An introduction for social scientists. SAGE Publishing, 2014.	https://methods.sagepub.com/book/beginning-statistics