



COURSE DESCRIPTION

Computer Applied Statistics

Academic year 2026-2027

1. Programme-related data

1.1. Higher Education Institution	Babeș-Bolyai University
1.2. Faculty	Business
1.3. Department	Business
1.4. Field	Business Administration
1.5. Level of study	Bachelor
1.6. Degree programme / Qualification	Business Administration/Bachelor in Economic Studies
1.7. Form of education	Full time

2. Information regarding the discipline

2.1. Name of the discipline	Computer Applied Statistics			Codul disciplinei	ILE0029
2.2. Course coordinator	Assoc.Prof. Gabriela Reghina PETRUȘEL, PhD				
2.3. Seminar coordinator	Assoc.Prof. Gabriela Reghina PETRUȘEL, PhD				
2.4. Year of study	2	2.5. Semester	2	2.6. Type of assessment	Progress check
2.7. Course status	Optional			2.8. Course type	Specialisation subject

3. Total estimated time (hours per semester of teaching activities)

3.1. Number of hours per week	3	of which: 3.2. course	1	3.3. seminar/ laboratory/ project	2
3.4. Total of hours in the curriculum	42	of which: 3.5. course	14	3.6. seminar/ laboratory	28
Time allocation for individual study (IS) and self-taught activities (ST)					hours
Learning from textbooks, course materials, bibliography, and notes (IS)					12
Additional research in the library, on subject-specific electronic platforms, and on-site					12
Preparing seminars/ laboratories/ projects, assignments, reports, portfolios, and essays					5
Tutoring (professional guidance)					2
Examinations					2
Other activities					-
3.7. Total hours of individual study (IS) and self-taught activities (ST)				33	
3.8. Total hours per semester				75	
3.9. Number of credits				3	

4. Prerequisites (where applicable)

4.1. curriculum-related	
4.2. skills-related	

5. Specific conditions (where applicable)

5.1. course-related	classroom with computer and projector;
5.2. seminar/laboratory-related	classroom with computer and projector;

6.1. Competencies resulting from the completion of the degree programme

Professional competencies	
Competency code	Competency
PC1	Gathering, processing and analysing data regarding the interaction between a company/an organisation and the external environment
PC5	Using databases specific to business management
Transversal competencies	
Competency code	Competency
TC1	Implementing ethical principles, norms and values within one's own rigorous, efficient, and responsible strategy of work

6.2. Learning outcomes relevant to the degree programme

Learning outcomes targeted by the subject		
Competency code	Knowledge and comprehension	Specific academic skills
PC1 PC5 TC1	The student has knowledge of accounting, processing, and analysing of economic and financial information required for an effective organisation and management of businesses.	The student has the necessary skills to use methods and techniques specific to the financial and accounting management of an enterprise as a whole, specialised software included.

7. Subject-specific learning outcomes

Knowledge and understanding
1. The student knows the fundamental concepts and methods of statistical data processing using specialised software applications.
2. The student understands methods for organising, structuring and presenting statistical data used in the analysis of economic phenomena.
3. The student knows the methods of statistical estimation, hypothesis testing and analysis of variance used in economic research.
4. The student understands methods for analysing relationships between variables through regression and correlation models.
Specific academic skills
1. The student uses software applications to process, analyse and visualise statistical data.
2. The student applies statistical methods to estimate parameters and test statistical hypotheses using specialised software.
3. The student performs regression analyses and interprets the results in the analysis of economic and financial phenomena.
4. The student prepares and presents statistical analyses using databases and software applications specific to business administration.

8. Contents

8.1. Course	Teaching and learning methods	Remarks
Introductio to Statgraphics Centurion XVI. Describe Menu	interactive discussion case studies	- DataBook - Entering data - Saving the work - Categorical Data. Tabulation - Numeric Data. One Variable Analysis

		• Categorical Data. Crosstabulation • Creating Plots • Summary Statistics
Describe Menu	interactive discussion case studies	• Confidence Intervals. Estimation of the mean. • Confidence Intervals. Estimation of the proportion. • Sample Size Determination • Confidence Intervals. Estimation of the difference between means
Describe Menu	interactive discussion case studies	• Hypothesis tests for mean • Hypothesis tests for proportion • Hypothesis Tests • Two Samples Comparison • Paired Samples Comparison
Compare Menu. ANOVA	interactive discussion case studies	• One-Way ANOVA • Multifactor ANOVA
Describe Menu	interactive discussion case studies	Crosstabulation. Chi-squared test χ^2 .
Relate Menu	interactive discussion case studies	• Simple regression • Multiple regression
Bibliography		
Statgraphics Centurion User Manual		
8.2. Seminar/ laboratory	Teaching and learning methods	Remarks
1. Introductio to Statgraphics Centurion XVI	interactive discussion case studies	• DataBook • Entering data Saving the work
2. Describe Menu	interactive discussion case studies	• Categorical Data. Tabulation • Numeric Data. One Variable Analysis • Categorical Data. Crosstabulation Creating Plots
3. Describe Menu	interactive discussion case studies	Summary Statistics
4. Describe Menu	interactive discussion case studies	• Confidence Intervals. Estimation of the mean. • Confidence Intervals. Estimation of the proportion. Sample Size Determination
5. Describe Menu	interactive discussion case studies	Confidence Intervals. Estimation of the difference between means.
6. Revision	interactive discussion case studies	
7. Describe Menu	interactive discussion case studies	• Hypothesis tests for mean • Hypothesis tests for proportion
8. Describe Menu. Co,pare Menu	interactive discussion case studies	• Hypothesis Tests • Two Samples Comparison • Paired Samples Comparison
9. Compare Menu. ANOVA	interactive discussion case studies	• One-Way ANOVA • Multifactor ANOVA
10. Describe Menu	interactive discussion case studies	Crosstabulation. Chi-squared test χ^2 .

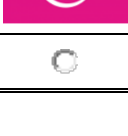
11. Relate Menu	interactive discussion case studies	Simple regression
12. Relate Menu	interactive discussion case studies	Multiple regression
13. Relate Menu	interactive discussion case studies	Regression Model Selection
14. Project presentation	interactive discussion	
Bibliography		
Statgraphics Centurion User Manual		

9. Evaluation

- **The same evaluation criteria are maintained for all exams sessions. The components of the evaluation process carried out during the semester cannot be recovered/redone in the examination sessions.**
- **To be able to accumulate the points obtained during the semester, it is mandatory to obtain a minimum of 5 (five) in the final exam (written/oral).**

Type of activity	9.1 Evaluation criteria	9.2 Evaluation methods	9.3 Percentage in the final grade
9.4. Course	Understanding of the fundamental concepts and methods of statistical data processing.	Final test (exam session)	60%
	Ability to organise, structure and interpret statistical data.		
	Application of statistical estimation and hypothesis testing methods.		
	Understanding of analysis of variance and relationships between variables.		
	Interpretation of the results of statistical and regression analyses.		
9.5. Seminar/ laboratory	Use of software applications to process and visualise statistical data.	Final project (week 14)	40%
	Application of statistical methods using specialised software.		
	Performance of statistical and regression analyses using economic databases.		
	Accuracy in interpreting results and drawing conclusions.		
	Clarity and coherence of the project presentation.		
9.6 Minimum standard for passing			
For the minimum grade (5), students must			
• Know the fundamental concepts and to be able to apply them. • To give an interpretation of the results.			

10. SDG labels (Sustainable Development Goals)

		Sustainable Development Generic Label						
								
								Nu se aplică nici o etichetă
								X

Date of entry:

22.05.2026

Signature of course coordinator

Gabriela Reghina PETRUȘEL, PhD

Signature of seminar coordinator

Gabriela Reghina PETRUȘEL, PhD

Date of approval in the department:

27.05.2026

Signature of the head of department

Prof. Ioan Cristian CHIFU, PhD