



SYLLABUS
Computer Applied Statistics
Academic year 2025-2026

1. Information regarding the program

1.1. Higher education institution	Universitatea Babeș Bolyai
1.2. Faculty	Business
1.3. Department	Business
1.4. Field of study	Business Administration
1.5. Study cycle	Bachelor
1.6. Study 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				Discipline code		ILE0029			
2.2. Course coordinator			Assoc.Prof. Gabriela Petrușel, PhD								
2.3. Seminar coordinator			Assoc.Prof. Gabriela Petrușel, PhD								
2.4. Year of study		2	2.5. Semester		2	2.6. Type of evaluation		C	2.7. Discipline regime		optional

3. Total estimated time (hours/semester of didactic activities)

3.1. Hours per week	3	of which: 3.2 course	1	3.3 seminar/laboratory	2
3.4. Total hours in the curriculum	42	of which: 3.5 course	14	3.6 seminar/laboratory	28
Time allotment for individual study (ID) and self-study activities (SA)					hours
Learning using manual, course support, bibliography, course notes (SA)					22
Additional documentation (in libraries, on electronic platforms, field documentation)					22
Preparation for seminars/labs, homework, papers, portfolios and essays					22
Tutorship					2
Evaluations					2
Other activities:					7
3.7. Total individual study hours					33
3.8. Total hours per semester					75
3.9. Number of ECTS credits					3

4. Prerequisites (if necessary)

4.1. curriculum	
4.2. competencies	

5. Conditions (if necessary)

5.1. for the course	classroom with computer and projector;
5.2. for the seminar /lab activities	classroom with computer and projector;



6.1. Specific competencies acquired

Professional/essential competencies	C1.3. Data collection, preparation, management and use of IT systems in data processing and analysis in order to solve specific problems of the company C1.4. Analysis of empirical data and results, their evaluation and validation in order to avoid and eliminate interpretation errors C1.5. Elaboration and proposal of projects for the use of empirical data from the economic field in the activity of companies
Transversal competencies	CT1. Implementing ethical principles, norms and values within one's own rigorous, efficient, and responsible strategy of work

6.2. Learning outcomes

Knowledge	The graduate has knowledge of accounting, processing, and analysing of economic and financial information required for an effective organisation and management of companies operating in the hospitality industry. <ul style="list-style-type: none">Knows methods of collecting data and making statistics for testing and evaluation to generate statements and pattern predictions, in order to discover useful information in the decision-making process. Has knowledge of using software tools for creating and editing tabular data to perform mathematical calculations, organize data and information, create data-driven charts, and retrieve them.
Skills	The graduate is able to use methods, techniques, and tools specific to the financial and accounting management of an enterprise as a whole, specialist software included. Use dedicated software for data analysis, including statistics, spreadsheets and databases, explore the possibilities to prepare reports to administrators, superiors or customers.
Responsibility and autonomy:	The graduate is able to make decisions according to their position and to take responsibility towards higher hierarchical levels.



7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	<ul style="list-style-type: none"> acquire knowledge and skills in a domain with wide applicability: applied statistics
7.2 Specific objective of the discipline	<ul style="list-style-type: none"> The ability to apply statistical techniques in marketing, finance, economics, etc. Learning different ways of organizing, analyzing, presenting and interpreting statistical data; Learning the main parameters characterizing a statistical series and understand their importance in the study series. Understanding the concepts of estimator and statistical hypothesis; Learning techniques for analyzing the relationship between statistical variables; Learning techniques for analysis of time series;

8. Content

8.1 Course	Teaching methods	Remarks
1. Introductio to Statgraphics Centurion XVI. Describe Menu	interactive discussion case studies	<ul style="list-style-type: none"> DataBook Entering data Saving the work Categorical Data. Tabulation Numeric Data. One Variable Analysis Categorical Data. Crosstabulation Creating Plots Summary Statistics
2. Describe Menu	interactive discussion case studies	<ul style="list-style-type: none"> Confidence Intervals. Estimation of the mean. Confidence Intervals. Estimation of the proportion. Sample Size Determination Confidence Intervals. Estimation of the difference between means
3. Describe Menu	interactive discussion case studies	<ul style="list-style-type: none"> Hypothesis tests for mean Hypothesis tests for proportion Hypothesis Tests Two Samples Comparison Paired Samples Comparison
4. Compare Menu. ANOVA	interactive discussion case studies	<ul style="list-style-type: none"> One-Way ANOVA Multifactor ANOVA
5. Describe Menu	interactive discussion case studies	Crosstabulation. Chi-squared test χ^2 .
6. Relate Menu	interactive discussion case studies	<ul style="list-style-type: none"> Simple regression Multiple regression
Bibliography: Statgraphics Centurion User Manual		



8.2 Seminar / laboratory	Metode de predare	Observații
1. Introductio to Statgraphics Centurion XVI	interactive discussion case studies	<ul style="list-style-type: none"> • DataBook • Entering data • Saving the work
2. Describe Menu	interactive discussion case studies	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Hypothesis tests for mean • Hypothesis tests for proportion
Describe Menu. Co,pare Menu	interactive discussion case studies	<ul style="list-style-type: none"> • Hypothesis Tests • Two Samples Comparison • Paired Samples Comparison
Compare Menu. ANOVA	interactive discussion case studies	<ul style="list-style-type: none"> • 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
Relate Menu	interactive discussion case studies	Multiple regression
Project presentation	interactive discussion	
Bibliography: Statgraphics Centurion User Manual		

9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

- The laboratory content is in correspondence with what is done in other universities in the country and abroad.
- To adapt to the market demands of the contents meetings were held with representatives of the business community.



10. 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).

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	correct logical and coherent application of the concepts learned	Final test (week 14)	50%
10.5 Seminar/laborator	the ability to apply concepts learned in practice	Final project (week 13)	50%
10.6 Standard minim de performanță			
For the minimum grade (5), students must			
<ul style="list-style-type: none">• Know the fundamental concepts and to be able to apply them.• To give an interpretation of the results.			

11. Labels ODD (Sustainable Development Goals)¹

N/A

Date:

28.03.2025

Signature of course coordinator

Assoc.prof Gabriela Petrușel, PhD

Signature of seminar coordinator

Assoc.prof Gabriela Petrușel, PhD

Date of approval:

10.04.2025

Signature of the head of department

Ioan Cristian CHIFU, PhD

¹ Keep only the labels that, according to the [Procedure for applying ODD labels in the academic process](#), suit the discipline and delete the others, including the general one for *Sustainable Development* – if not applicable. If no label describes the discipline, delete them all and write „Not applicable.”.