UNIVERSITATEA BABEŞ-BOLYAI
BABEŞ-BOLYAI TUDOMÁNYEGYETEM
BABEŞ-BOLYAI UNIVERSITÄT
BABEŞ-BOLYAI UNIVERSITY
TRADITIO ET EXCELLENTIA

FACULTATEA DE BUSINESS IN PARTNERSHIP
Facultatea de Business

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Syllabus
Academic year 2023-2024

1. Information regarding the programme

1.1. Higher education institution	Universitatea Babeş-Bolyai
1.2. Faculty	Faculty of Business
1.3. Department	Business
1.4. Field of study	Business Administration
1.5. Study cycle	Bachelor
1.6. Study programme / Qualification	Business Administration (English)

2. Information regarding the course

2.1. Name of the course	Business Applied Statistics						
2.2. Code	ILE0047						
2.3. Course coordinator	Assoc.prof Gabriela Petruşel, PhD						
2.4. Seminar coordinator	Assoc.prof. Gabriela Petruşel, PhD						
2.5. Year of study	1	2.6. Semester	II	2.7. Type of evaluation	E	2.8. Type of course	compulsory

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

3.1. Hours per week	4	Of which: 3.2. lecture	2	3.3 seminar/laboratory	2
3.4. Total hours in the curriculum	56	Of which: 3.5. lecture	28	3.6. seminar/laboratory	28
Time allotment:					ore
Learning using manual, course support, bibliography, course notes					14
Additional documentation (in libraries, on electronic platforms, field documentation)					14
Preparation for seminars/labs, homework, papers, portfolios and essays					28
Tutorship					2
Evaluations					2
Other activities:					9
3.7. Total individual study hours					69
3.8. Total hours per semester					125
3.9. Number of ECTS credits					5

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;

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6. Specific competencies acquired

Professional competencies	C1. Gathering, processing, and analysing data regarding the interaction between a company/ an organisation and the external environment. C1.4. Assessing critically and constructively the way of explaining and/or solving problems referring to the economic influence of the external environment on a company/an organization. C2. Providing assistance for running a company/ an organisation as a whole. C2.2. Explaining and interpreting the relationships among various entities in a company/ an organisation.
Transversal competencies	CT.1. Implementing ethical principles, norms, and values within one's own rigorous, efficient, and responsible strategy of work.

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

7.1. General objective of the course	• acquire knowledge and skills in several areas of mathematics, economics and business critical applications; • learning the fundamentals of probability; • communication skills in probability and statistical language
7.2. Specific objective of the course	• Learning key concepts of probability theory; • Understanding of some concepts like experiment, event, probability of an event; • Understand random variable as numerical description of the outcome of an experiment; • Understand the importance of studying the probability distributions; • 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.

8. Content

8.1. Course	Teaching method	Remarks
1. Basic probability concept	interactive discussion	• Events. Combination of events. Event probability • Conditional probability • Independent events
2. Classical probability scheme	interactive discussion	• Binomial scheme • Polynomial scheme • Hyper geometric scheme

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		• Poisson's scheme • Pascal's scheme
3. Discrete random variables	interactive discussion	• Distribution • Cumulative probability function • Expected value, variance, standard deviation
4. Continuous random variables	interactive discussion	• Distribution • Cumulative probability function • Expected value, variance, standard deviation
5. Discrete probability distributions	interactive discussion	• Binomial distribution • Hyper geometric distribution • Poisson distribution
6. Continuous probability distribution	interactive discussion	• Uniform distribution • Exponential distribution • Gamma distribution • Beta distribution • Log-normal distribution • Traingular distribution • Normal distribution • Gosset distribution • Helmert-Pearson distribution
7. Continuous probability distribution	interactive discussion	• Normal distribution
8. Random variables sequences	interactive discussion	• Convergence notions • Law of large numbers • Limit theorems
9. Basic concept of descriptive statistics	interactive discussion	• Data • Element • Population • Sample • Variable
10. Organizing data. Frequencies. Tables.	interactive discussion	• Tabulation • Crosstabulation
11. Organizing data. Charts and Graphs	interactive discussion	• Barchart • Piechart • Histogram • Frequency poligon
12. Describing data. Central tendency. Location.	interactive discussion	• Mean value • Median • Mode

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		• Quartiles
13. Describing data. Variability	interactive discussion	• Variance • Standard deviation • Interquartile range
14. Revision		
Bibliography	1. Anderson D., Sweeney D., Williams T., *Quantitative Methods for Business*, Thomas Learning, London, 2001. 2. Fleming M.C., Nellis J.G., *Principles of Applied Statistics, Second Edition,* Thomas Learning, 2000.	

8.2. Seminar / laboratory	Teaching method	Remarks
1. Basic probability concept	exercises, case study	• Events. Combination of events. Event probability • Conditional probability • Independent events
2. Classical probability scheme	exercises, case study	• Binomial scheme • Polynomial scheme • Hyper geometric scheme • Poisson's scheme • Pascal's scheme
3. Discrete random variables	exercises, case study	• Distribution • Cumulative probability function • Expected value, variance, standard deviation
4. Continuous random variables	exercises, case study	• Distribution • Cumulative probability function • Expected value, variance, standard deviation
5. Discrete probability distributions	exercises, case study	• Binomial distribution • Hyper geometric distribution • Poisson distribution
6. Continuous probability distribution	exercises, case study	• Uniform distribution • Exponential distribution • Gamma distribution • Beta distribution • Log-normal distribution • Traingular distribution • Normal distribution • Gosset distribution • Helmert-Pearson distribution

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7. Continuous probability distribution	exercises, case study	• Normal distribution
8. Random variables sequences	exercises, case study	• Convergence notions • Law of large numbers • Limit theorems
9. Basic concept of descriptive statistics	exercises, case study	• Data • Element • Population • Sample • Variable
10. Organizing data. Frequencies. Tables.	exercises, case study	• Tabulation • Crosstabulation
11. Organizing data. Charts and Graphs	exercises, case study	• Barchart • Piechart • Histogram • Frequency poligon
12. Describing data. Central tendency. Location.	exercises, case study	• Mean value • Median • Mode • Quartiles
13. Describing data. Variability	exercises, case study	• Variance • Standard deviation • Interquartile range
14. Revision		
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9. Corroborating the content of the course with the expectations of the epistemic community, professional associations and representative employers within the field of the program

- The course content is 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 hold for all exams sessions;**
- **In order to be able to cumulate the points obtained during the semester, it is mandatory to obtain minimum 5 (five) in the final exam.**

Type of activity	10.1 Evaluation criteria	10.2 Evaluation method	10.3 Share in the grade (%)
10.4. Course	• correct logical and coherent	final exam	50%

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	application of the concepts learned • logical and accurate explanation and interpretation of the results;		
10.5. Seminar/lab activities	• the ability to apply concepts learned in practice • correct logical and coherent application of the concepts learned • economic explanation of the results; • interest in the individual preparation throughout the whole semester	applicative activities (projects, essays, reports, etc.) control papers the active participation in seminars	10% 30% 10%
10.6. Minimum performance standards			
➢ Knowledge of the fundamental concepts and their applicate examples; ➢ The economic interpretation of the results.			

Date	Course coordinator	Seminar coordinator
29.09.2023	Conf.dr. Gabriela PETRUŞEL	Conf.dr. Gabriela PETRUŞEL
Date of approval		Head of department
11.10.2023		Prof.dr. Ioan Cristian CHIFU