



COURSE DESCRIPTION
Business Data Analytics
(data-driven decision making)
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	Master
1.6. Degree programme / Qualification	International Business Administration/Master
1.7. Form of education	Full time

2. Information regarding the discipline

2.1. Name of the discipline	Business Data Analytics (data-driven decision making)			Discipline code	IME0062
2.2. Course coordinator	Ionuț Traian LUCA, PhD				
2.3. Seminar coordinator	Ionuț Traian LUCA, PhD				
2.4. Year of study	2	2.5. Semester	1	2.6. Type of assessment	Progress check
2.7. Course status	Elective			2.8. Course type	Specialisation subject

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

3.1. Number of hours per week	2	of which: 3.2. course	1	3.3. seminar/ laboratory/ project	1
3.4. Total of hours in the curriculum	28	of which: 3.5. course	14	3.6. seminar/ laboratory	14
Time allocation for individual study (IS) and self-taught activities (ST)					hours
Learning from textbooks, course materials, bibliography, and notes (IS)					14
Additional research in the library, on subject-specific electronic platforms, and on-site					10
Preparing seminars/ laboratories/ projects, assignments, reports, portfolios, and essays					11
Tutoring (professional guidance)					2
Examinations					2
Other activities					8
3.7. Total hours of individual study (IS) and self-taught activities (ST)				47	
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	In-depth knowledge and systematic use of the set of information resulting from the theoretical, methodological, legislative, and practical developments specific to business administration at international level
PC2	Higher ability to substantiate and assess strategies and decision alternatives, as well as their selection and implementation in business administration at international level/ within multinational corporations
Transversal competencies	
Competency code	Competency
TC2	Identification of roles and responsibilities in a team and their application within companies
TC3	Making effective use of life-long learning opportunities to ensure an ongoing adaptation to changes arising in a business environment

6.2. Learning outcomes relevant to the degree programme

Learning outcomes targeted by the subject		
Competency code	Knowledge and comprehension	Specific academic skills
PC1 PC2 TC2 TC3	1. The student has complex knowledge of accounting, processing, and analysis of economic and financial information required for an effective organization and management of units.	1. The student demonstrates a high ability to understand the complexity of macroeconomic policies and is thus able to infer their implications at microeconomic level.

7. Subject-specific learning outcomes

Knowledge and understanding
1. The student/graduate knows how to use spreadsheet data creation and editing software tools to perform mathematical calculations, organize data and information, create data-driven charts, and retrieve them.
2. The student/graduate knows how to use dedicated software for data analysis, including statistics, spreadsheets and databases.
3. The student/graduate explores the possibilities to prepare reports for administrators, superiors or customers
Specific academic skills
1. The student/graduate assesses the state of a business on its own and in relation to the competitive field of activity, conducts research, putting data in the context of the company's needs and determining areas of opportunity
2. The student/graduate interpret advanced statistical models, translate analytical insights into clear business recommendations, and design data-driven strategies that support effective decision-making.

8. Contents

8.1. Course	Teaching and learning methods	Remarks
Week 1: The Role of Data in Business Decision-Making	Presential course	- Types of data in organizations - Decision-making processes: descriptive, predictive, and prescriptive analytics - KPIs and measurement frameworks
Week 2: Analytics Tools – Excel, Power BI	Presential course	- Introduction to data visualization - Dashboards and performance indicators

		Structuring data for analysis
Week 3: Statistical Fundamentals for Business Analytics and Business Strategies	Presential course	- Means, variances, correlations - Force-field analysis, break even analysis - Graphical representations and interpretation/ conclusions
Week 4: Machine Learning in Analytics (Introductory Level)	Presential course	- Types of ML: regression, classification, clustering - Real-world applications of ML in companies - AI as a decision support tool
Week 5: Generative AI in Business Analytics	Presential course	- GPT & LLMs in automatic reporting - Examples of automation for reports/summaries/decisions - IP, ethics, and risks
Week 6: Risk Assessment and AI in Financial Analytics	Presential course	- Credit scoring models - Fraud detection using AI - Sensitivity analysis
Week 7: Final Project + Integration	Presential course	- Business scenario: Using data-backed insights, analyze a struggling company and give feedback for improvement - Integrating technology into strategic thinking

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 data analytics concepts, business performance indicators and data-driven decision-making processes	Final exam (during exam session)	50%
	Understanding statistical methods, analytical models and AI techniques used in business analytics		
	Ability to interpret analytical results and translate data insights into business recommendations		
	Understanding the role of data, artificial intelligence and digital technologies in supporting strategic business decisions		
9.5. Seminar/ laboratory	Application of spreadsheet, database and business analytics tools for data processing, analysis and visualization	Written assignments (during the semester)	50%

	Development of analytical reports, dashboards and business insights based on real or simulated datasets		
	Assessment of business performance and identification of opportunities using analytical and statistical techniques		
	Application of AI-supported analytical tools and interpretation of their results in practical business contexts		
9.6 Minimum standard for passing			
For the minimum grade (5), the student must demonstrate:			
● Knowledge of the fundamental concepts and their applications in case studies, questions; ● Basic understanding and interpretation of the different AI techniques.			

10. SDG labels (Sustainable Development Goals)

		Sustainable Development Generic Label						
1 FĂRĂ SĂRĂCIE 	2 FOAMETE „ZERO” 	3 SĂNĂTATE ȘI BUNĂSTĂRE 	4 EDUCATIE DE CALITATE 	5 EGALITATE DE GEN 	6 APĂ CURATĂ ȘI SĂNĂTATE 	7 ENERGIE CURATĂ ȘI LA PREȚURI ACCESIBILE 	8 MUNCĂ DECENTĂ ȘI CREȘTERE ECONOMICĂ 	9 INDUSTRIE, INOVATIE ȘI INFRASTRUCTURĂ 
			X				X	X
10 INEGALITĂȚI REDUSE 	11 ORAȘE ȘI COMUNITĂȚI DURABILE 	12 CONSUM ȘI PRODUCȚIE RESPONSABILĂ 	13 ACȚIUNE CLIMATICĂ 	14 VIAȚĂ ACVATICĂ 	15 VIAȚĂ TERESTRĂ 	16 PACE, JUSTIȚIE ȘI INSTITUȚII EFICIENTE 	17 PARTENERIATE PENTRU REALIZAREA OBIECTIVELOR 	Nu se aplică nici o etichetă
								

Date of entry:	Signature of course coordinator	Signature of seminar coordinator
22.05.2026	Ionuț Traian LUCA, PhD	Ionuț Traian LUCA, PhD
Date of approval in the department:	Signature of the head of department	
27.05.2026	Prof. Ioan Cristian CHIFU, PhD	