



COURSE DESCRIPTION
Econometrics
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	Econometrics			Discipline code	IME0006
2.2. Course coordinator	Ioan Cristian CHIFU, PhD				
2.3. Seminar coordinator	Ioan Cristian CHIFU, PhD				
2.4. Year of study	1	2.5. Semester	2	2.6. Type of assessment	Exam
2.7. Course status	Compulsory			2.8. Course type	Core subject

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

3.1. Number of hours per week	3	of which: 3.2. course	2	3.3. seminar / laboratory / project	1
3.4. Total of hours in the curriculum	42	of which: 3.5. course	28	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)					28
Additional research in the library, on subject-specific electronic platforms, and on-site					28
Preparing seminars / laboratories / projects, assignments, reports, portfolios, and essays					28
Tutoring (professional guidance)					2
Examinations					4
Other activities					18
3.7. Total hours of individual study (IS) and self-taught activities (ST)				108	
3.8. Total hours per semester				150	
3.9. Number of credits				6	

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
Transversal competencies	
Competency code	Competency
TC1	Promoting the principles, norms and values of professional ethics in conditions of professional autonomy and independence.

6.2. Learning outcomes relevant to the degree programme

Learning outcomes targeted by the subject		
Competency code	Knowledge and comprehension	Specific academic skills
PC1 TC1	1. The student/graduate knows methods and tools of economic, statistical and quantitative analysis used in supporting managerial decisions. The student/graduate describes the stages involved in building, estimating, and validating econometric models.	1. The student/graduate estimates econometric models using economic data and statistical software. The student/graduate interprets the results of econometric models in order to analyze economic relationships and support managerial decision-making.

7. Subject-specific learning outcomes

Knowledge and understanding
1. The student/graduate knows the fundamental concepts and models of econometric analysis used in the analysis of economic and business phenomena.
2. The student/graduate understands the stages involved in building, estimating, and validating econometric models, including their assumptions and limitations of applicability.
3. The student/graduate knows the methods for parameter estimation and hypothesis testing techniques in econometric models, as well as model selection criteria.
4. The student/graduate understands the methods for analyzing economic data series and the relationships between variables, including the interpretation of results in an economic context.
Specific academic skills
1. The student/graduate estimates econometric models using real economic data and statistical software, applying appropriate analytical methods.
2. The student/graduate tests hypotheses and validates econometric models using statistical indicators and performance criteria.
3. The student/graduate interprets the results of econometric models for the analysis of economic relationships and for supporting managerial decision-making.
4. The student/graduate applies econometric methods in the analysis of complex economic data, formulating conclusions and recommendations based on the obtained results.

8. Contents

8.1. Course	Teaching and learning methods	Remarks
Introduction in Econometrics - History of Econometrics. - Methodology of Econometrics.	interactive presentation, problem-based learning, use of software applications	1 course
A review of some statistical concepts - Basic information (elements, population, sample, data, variables) - Working with samples - From sample to population (estimators, hypothesis testing)	interactive presentation, problem-based learning, use of software applications	1 course
The linear regression model: two-variable model - Population regression function - Sample regression function - Estimation of parameters: Ordinary least squares - Hypothesis testing - Coefficient of correlation. Coefficient of determination - Estimation and Forecasting	interactive presentation, problem-based learning, use of software applications	2 courses
Multiple regression - The three-variable linear regression model - Estimation of parameters - Hypothesis testing in multiple regression - Adjusted R^2 - Estimation and Forecasting - Removing explanatory variables from the model - Adding explanatory variables to the model	interactive presentation, problem-based learning, use of software applications	1 course
Functional forms of regression models - Log-linear model (multiplicative) - Semilog model (exponential) - Lin-log model (logarithmic X) - Reciprocal model - How to compare models - Multiple log-linear model - Restricted least-squares method - Polynomial model	interactive presentation, problem-based learning, use of software applications	2 courses
Regression on dummy explanatory variables - ANOVA models - ANCOVA models	interactive presentation, problem-based learning, use of software applications	1 course
Regression Analysis in Practice - Multicollinearity - Heteroscedasticity - Autocorrelation	interactive presentation, problem-based learning, use of software applications	3 courses
Dynamic economic models - Autoregressive models - Distributed lag models	interactive presentation, problem-based learning, use of software applications	1 course
Project	Presentation, discussions	1 course
Revision	Exercices	1 course

Bibliography		
Bibliography: 1. Carter Hill, R., Griffiths, W.E., Lim, G.C., Principles of Econometrics, 5th Edition, 2018, Wiley 2. Briand, G., Carter Hill, R., Using Excel for Principles of Econometrics, 5th Edition, 2018, E-book. 3. Gujarati, D., Porter, D.C., Basic Econometrics. New York: McGraw-Hill, 2009. (library) 4. Anderson D., Sweeney D., Williams T., Quantitative Methods for Business, Thomas Learning, London, 2001. (library) 5. Fleming M.C., Nellis J.G., Principles of Applied Statistics, Second Edition, Thomas Learning, 2000. (library) 6. Reader_Econometrics_2026_2027 (Teams)		
8.2. Seminar/ laboratory	Teaching and learning methods	Remarks
Introduction in Econometrics - History of Econometrics. - Methodology of Econometrics.	interactive presentation, problem-based learning, use of software applications	1 seminar
A review of some statistical concepts - Basic information (elements, population, sample, data, variables) - Working with samples - From sample to population (estimators, hypothesis testing)	interactive presentation, problem-based learning, use of software applications	1 seminar
The linear regression model: two-variable model - Population regression function - Sample regression function - Estimation of parameters: Ordinary least squares - Hypothesis testing - Coefficient of correlation. - Coefficient of determination - Estimation and Forecasting	interactive presentation, problem-based learning, use of software applications	2 seminars
Multiple regression - The three-variable linear regression model - Estimation of parameters - Hypothesis testing in multiple regression - Adjusted R^2 - Estimation and Forecasting - Removing explanatory variables from the model - Adding explanatory variables to the model	interactive presentation, problem-based learning, use of software applications	1 seminar
Functional forms of regression models - Log-linear model (multiplicative) - Semilog model (exponential) - Lin-log model (logarithmic X) - Reciprocal model - How to compare models - Multiple log-linear model - Restricted least-squares method - Polynomial model	interactive presentation, problem-based learning, use of software applications	2 seminars
Regression on dummy explanatory variables - ANOVA models - ANCOVA models	interactive presentation, problem-based learning, use of software applications	1 seminar
Regression Analysis in Practice - Multicollinearity - Heteroscedasticity - Autocorrelation	interactive presentation, problem-based learning, use of software applications	3 seminars

Dynamic economic models - Autoregressive models - Distributed lag models	interactive presentation, problem-based learning, use of software applications	1 seminar
Project	Presentation, discussions	1 seminar
Revision	Exercices	1 seminar
Bibliography		
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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 econometric concepts and models	Final exam (held during the examination session)	60%
	Correct application of estimation and testing methods		
	Ability to analyze and interpret results		
	Understanding the limitations and assumptions of econometric models		
	Appropriate use of econometric models in an economic context		
9.5 Seminar/laborator	Correct specification of the model	Assignment 1 – Multiple regression (during the semester)	10%
	Parameter estimation and interpretation of coefficients		
	Testing the statistical significance of the model		
	Correct introduction of dummy variables	Assignment 2 – Dummy variables (during the semester)	10%
	Interpretation of coefficients		
	Use of the model in economic analysis		
	Selection and justification of the econometric model	Project implementation (completed and assessed during the semester)	10%
	Correct estimation and validation		
	Appropriate use of data		
	Clarity of presentation	Project presentation (presented in week 13)	10%
	Interpretation of results		
	Ability to argue and substantiate conclusions		
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
								

Date of entry:

22.05.2026

Signature of course coordinator

Prof. Ioan Cristian CHIFU, PhD

Signature of seminar coordinator

Prof. Ioan Cristian CHIFU, PhD

Date of approval in the department:

27.05.2026

Signature of the head of department

Prof. Ioan Cristian CHIFU, PhD