



COURSE DESCRIPTION
Introduction to 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	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	Introduction to Econometrics			Codul disciplinei	ILE0048
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	1	2.6. Type of assessment	Exam
2.7. Course status	Compulsory			2.8. Course type	Domain discipline

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

3.1. Number of hours per week	4	of which: 3.2. course	2	3.3. seminar/ laboratory/ project	2
3.4. Total of hours in the curriculum	56	of which: 3.5. course	28	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)					14
Additional research in the library, on subject-specific electronic platforms, and on-site					14
Preparing seminars/ laboratories/ projects, assignments, reports, portfolios, and essays					28
Tutoring (professional guidance)					2
Examinations					2
Other activities					9
3.7. Total hours of individual study (IS) and self-taught activities (ST)				69	
3.8. Total hours per semester				125	
3.9. Number of credits				5	

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	1. The student/graduate has knowledge of accounting, processing, and analysing of economic and financial information required for effective organisation and management of businesses.	1. The student/graduate 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/graduate knows the fundamental concepts of inferential statistics (selections, selection distributions).
2. The student/graduate understands the methods for estimating the parameters and confidence intervals.
3. The student/graduate knows the methods of testing statistical hypotheses and interpreting the results.
4. The student/graduate understands the use of regression models and the chronological series.
Specific academic skills
1. The student/graduate applies selection and estimation methods using economic data sets.
2. The student/graduate performs hypothesis tests and interprets the results for decision-making.
3. The student/graduate analyzes and interprets the simple and multiple linear regression models.
4. The student/graduate analyzes the chronological series to make economic forecasts.
5. The student/graduate uses statistical software to analyze economic data in order to prepare reports for managers, supervisors, or clients.

8. Contents

8.1. Course	Teaching and learning methods	Remarks
Review of some descriptive statistic concepts	interactive discussion	- Organizing data - Describing data
Sampling distribution	interactive discussion	- Sampling distribution with replacement - Sampling distribution without replacement

		- Standard error of the sample mean - Standard error of the sample proportion
Estimation I	interactive discussion	- Point estimators - Confidence intervals for the population mean - Confidence intervals for the proportion
Estimation II	interactive discussion	- Confidence intervals for two population mean - Confidence intervals for two population proportion - Confidence intervals for median
Hypothesis testing I	interactive discussion	- Single population -average - Single population -proportion
Hypothesis testing II	interactive discussion	- Two population average - Two population proportion
Hypothesis testing III	interactive discussion	Chi-squared test
Analysis of variance (ANOVA)	interactive discussion	- Single factor analysis - Two factor analysis
Relationships between variables I	interactive discussion	Simple linear regression
Relationships between variables II	interactive discussion	Multiple linear regression
Time series analysis I	interactive discussion	- Components of time series - Decomposition of time series - Measurement of trend
Time series analysis II	interactive discussion	- Measurement of seasonal variation - Measurement of cyclical variation
Index numbers	interactive discussion	- Composite price indexes - Quantity indexes
Revision	interactive discussion	- Organizing data - Describing data
Bibliography		
- Carter Hill, R., Griffiths, W.E., Lim, G.C., Principles of Econometrics, 5th Edition, 2018, Wiley - Briand, G., Carter Hill, R., Using Excel for Principles of Econometrics, 5th Edition, 2018, E-book. - Brandimarte P., <i>Quantitative Methods – an introduction for Business Management</i>, Wiley&Sons, 2011 - Berenson M.L., Levine D.M., Krehbiel T.C., <i>Basic Business Statistics. Concepts and applications</i>, 11th edition, Pearson Education, 2009; - Anderson D., Sweeney D., Williams T., <i>Quantitative Methods for Business</i>, Thomas Learning, London, 2001. (biblioteca facultății) - Fleming M.C., Nellis J.G., <i>Principles of Applied Statistics, Second Edition</i>, Thomas Learning, 2000. (biblioteca facultății)		
8.2. Seminar/ laboratory	Teaching and learning methods	Remarks
Review of some descriptive statistic concepts	interactive discussion	- Organizing data - Describing data
Sampling distribution	interactive discussion	- Sampling distribution with replacement - Sampling distribution without replacement - Standard error of the sample mean - Standard error of the sample proportion

Estimation I	interactive discussion	- Point estimators - Confidence intervals for the population mean Confidence intervals for the proportion
Estimation II	interactive discussion	- Confidence intervals for two population mean - Confidence intervals for two population proportion - Confidence intervals for median
Hypothesis testing I	interactive discussion	Single population -average Single population -proportion
Hypothesis testing II	interactive discussion	Two population average Two population proportion
Hypothesis testing III	interactive discussion	Chi-squared test
Analysis of variance (ANOVA)	interactive discussion	Single factor analysis Two factor analysis
Relationships between variables I	interactive discussion	Simple linear regression
Relationships between variables II	interactive discussion	Multiple linear regression
Time series analysis I	interactive discussion	- Components of time series - Decomposition of time series Measurement of trend
Time series analysis II	interactive discussion	- Measurement of seasonal variation - Measurement of cyclical variation
Index numbers	interactive discussion	- Composite price indexes - Quantity indexes
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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 the methods for estimating the parameters and confidence intervals; - understanding the statistical hypothesis testing methods;	final exam (in the exams session)	60%

	- understanding the econometric models (simple and multiple linear regression); - the accuracy of calculations and interpreting the results; - the ability to analyze and synthesize in an economic context;		
9.5. Seminar/ laboratory	- applying estimation methods on datasets; - testing and statistical interpretation of hypotheses; - collecting and organizing economic data; - applying econometric methods (regression estimation); - interpreting the results and drawing conclusions; - making decisions based on the analysis carried out;	control papers (during the semester) applicative activities (projects, essays, reports -during the semester)	20% 20%

9.6 Minimum standard for passing

For the minimum grade (5), students must

- to prove the understanding the basic concepts and notions;
- to be able to apply simple econometric methods;
- to be able to correctly interpret the results obtained;

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

Assoc.prof Gabriela Petrușel, PhD

Signature of seminar coordinator

Assoc.prof Gabriela Petrușel, PhD

Date of approval in the department:

27.05.2026

Signature of the head of department

Prof. Ioan Cristian CHIFU, PhD