



SYLLABUS

Introduction to Econometrics

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 in Hospitality Services/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				Discipline code	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 evaluation	E	2.7. Discipline regime	compulsory	

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

3.1. Hours per week	4	of which: 3.2 course	2	3.3 seminar/laboratory	2
3.4. Total hours in the curriculum	56	of which: 3.5 course	28	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)					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;



6.1. Specific competencies acquired

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

6.2. Learning outcomes

Knowledge	<p>The student 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.</p> <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	<p>The student is able to use methods, techniques, and tools specific to the financial and accounting management of an enterprise as a whole, specialist software included.</p> <ul style="list-style-type: none"> 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:	



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

7.1 General objective of the discipline	<ul style="list-style-type: none"> Learning the techniques of statistical analysis and forecasting of economic phenomena.
7.2 Specific objective of the discipline	<ul style="list-style-type: none"> 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
Review of some descriptive statistic concepts	interactive discussion	<ul style="list-style-type: none"> Organizing data Describing data
Sampling distribution	interactive discussion	<ul style="list-style-type: none"> Sampling distribution with replacement Sampling distribution without replacement Standard error of the sample mean Standard error of the sample proportion
Estimation I	interactive discussion	<ul style="list-style-type: none"> Point estimators Confidence intervals for the population mean Confidence intervals for the proportion
Estimation II	interactive discussion	<ul style="list-style-type: none"> Confidence intervals for two population mean Confidence intervals for two population proportion Confidence intervals for median
Hypothesis testing I	interactive discussion	<ul style="list-style-type: none"> Single population average Proportion
Hypothesis testing II	interactive discussion	<ul style="list-style-type: none"> Two population average Two population proportion
Hypothesis testing III	interactive discussion	Chi-squared test
Analysis of variance (ANOVA)	interactive discussion	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Components of time series Decomposition of time series Measurement of trend
Time series analysis II	interactive discussion	<ul style="list-style-type: none"> Measurement of seasonal variation Measurement of cyclical variation
Index numbers	interactive discussion	<ul style="list-style-type: none"> Composite price indexes Quantity indexes



Review of some descriptive statistic concepts	interactive discussion	<ul style="list-style-type: none"> Organizing data Describing data
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. Brandimarte P., Quantitative Methods – an introduction for Business Management, Wiley&Sons, 2011 4. Berenson M.L., Levine D.M., Krehbiel T.C., Basic Business Statistics. Concepts and applications, 11 th edition, Pearson Education, 2009; 5. Anderson D., Sweeney D., Williams T., Quantitative Methods for Business, Thomas Learning, London, 2001. (biblioteca facultății) 6. Fleming M.C., Nellis J.G., Principles of Applied Statistics, Second Edition, Thomas Learning, 2000. (biblioteca facultății)		
8.2 Seminar / laboratory	Metode de predare	Observații
Review of some descriptive statistic concepts	interactive discussion	<ul style="list-style-type: none"> Organizing data Describing data
Sampling distribution	interactive discussion	<ul style="list-style-type: none"> Sampling distribution with replacement Sampling distribution without replacement Standard error of the sample mean Standard error of the sample proportion
Estimation I	interactive discussion	<ul style="list-style-type: none"> Point estimators Confidence intervals for the population mean Confidence intervals for the proportion
Estimation II	interactive discussion	<ul style="list-style-type: none"> Confidence intervals for two population mean Confidence intervals for two population proportion Confidence intervals for median
Hypothesis testing I	interactive discussion	<ul style="list-style-type: none"> Single population average Proportion
Hypothesis testing II	interactive discussion	<ul style="list-style-type: none"> Two population average Two population proportion
Hypothesis testing III	interactive discussion	Chi-squared test
Analysis of variance (ANOVA)	interactive discussion	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Components of time series Decomposition of time series Measurement of trend
Time series analysis II	interactive discussion	<ul style="list-style-type: none"> Measurement of seasonal variation Measurement of cyclical variation
Index numbers	interactive discussion	<ul style="list-style-type: none"> Composite price indexes Quantity indexes



Revision	interactive discussion	<ul style="list-style-type: none"> Organizing data Describing data
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. Brandimarte P., Quantitative Methods – an introduction for Business Management, Wiley&Sons, 2011 4. Berenson M.L., Levine D.M., Krehbiel T.C., Basic Business Statistics. Concepts and applications, 11 th edition, Pearson Education, 2009; 5. Anderson D., Sweeney D., Williams T., Quantitative Methods for Business, Thomas Learning, London, 2001. (biblioteca facultății) 6. Fleming M.C., Nellis J.G., Principles of Applied Statistics, Second Edition, Thomas Learning, 2000. (biblioteca facultății)		

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 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 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	<ul style="list-style-type: none">correct logical and coherent application of the concepts learnedlogical and accurate explanation and interpretation of the results;	final exam (in the exams session)	50%
10.5 Seminar/laboratory	<ul style="list-style-type: none">the ability to apply concepts learned in practicecorrect logical and coherent application of the concepts learnedeconomic explanation of the results;interest in the individual preparation throughout the whole semester	applicative activities (projects, essays, reports -during the semester)	20%
		control papers (during the semester)	20%
		the active participation in seminars	10%
10.6 Minimum standard of performance			
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

Not Applicable

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.*”.