SYLLABUS
Econometrics
Academic year 2025-2026

1. Information regarding the program

1.1. Higher education institution	Babeş-Bolyai University
1.2. Faculty	Business
1.3. Department	Business Administration
1.4. Field of study	Business Administration
1.5. Study cycle	Master
1.6. Study 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 evaluation	E	2.7. Discipline type	Compulsory

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

3.1. Hours per week	3	of which: 3.2 course	2	3.3 seminar/laboratory	1
3.4. Total hours in the curriculum	42	of which: 3.5 course	28	3.6 seminar/laboratory	14
Time allotment for individual study (ID) and self-study activities (SA)					**hours**
Learning using manual, course support, bibliography, course notes (SA)					28
Additional documentation (in libraries, on electronic platforms, field documentation)					28
Preparation for seminars/labs, homework, papers, portfolios and essays					28
Tutorship					2
Evaluations					4
Other activities:					18
3.7. Total individual study hours					**108**
3.8. Total hours per semester					**150**
3.9. Number of ECTS credits					**6**

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	C1 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	CT1. Promoting the principles, norms and values of professional ethics in conditions of professional autonomy and independence.

6.2. Learning outcomes

Knowledge	The student has complex knowledge of accounting, processing, and analysis of economic and financial information required for an effective organization and management of units. ✓ know 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. ✓ Know how to use dedicated software for data analysis, including statistics, spreadsheets and databases. Explore the possibilities to prepare reports for administrators, superiors or customers.
Skills	• The student demonstrates a high ability to understand the complexity of macroeconomic policies and is thus able to infer their implications at microeconomic level. ✓ 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
Responsibility and autonomy:	• The student can perform complex professional tasks, under conditions of autonomy and professional independence.

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

7.1 General objective of the discipline	• Learning the econometrics principles and understanding its principles as a tool for quantitative analysis
7.2 Specific objective of the discipline	• the ability to use statistical and econometrical language and acquire knowledge and skills in an area with a very large application at macro and micro level: econometrics • develop skills of data analysis that describes an economic phenomenon • development of communication skills in econometric language.

8. Content

8.1 Course	Teaching methods	Remarks
Introduction in Econometrics • History of Econometrics. • Methodology of Econometrics.	interactive discussion	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 discussion	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 discussion	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 discussion	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 discussion	2 courses
Regression on dummy explanatory variables • ANOVA models • ANCOVA models	interactive discussion	1 course
Regression Analysis in Practice • Multicollinearity • Heteroscedasticity • Autocorrelation	interactive discussion	3 courses
Dynamic economic models • Autoregressive models • Distributed lag models	interactive discussion	1 course
Project	interactive discussion	1 course
Revision	interactive discussion	1 course

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_2025_2026 (Teams)

8.2 Seminar / laboratory	Teaching methods	Remarks
Introduction in Econometrics • History of Econometrics. • Methodology of Econometrics.	interactive discussion	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 discussion	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 discussion	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 discussion	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 discussion	2 seminars
Regression on dummy explanatory variables • ANOVA models • ANCOVA models	interactive discussion	1 seminar
Regression Analysis in Practice • Multicollinearity • Heteroscedasticity	interactive discussion	4 seminars

• Autocorrelation		
Dynamic economic models • Autoregressive models • Distributed lag models	interactive discussion	1 seminar
Project	interactive discussion	1 seminar
Revision	interactive discussion	1 seminar

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_2025_2026 (Teams)

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 correspondent with what is done in other universities in the country and abroad.
- To adapt to the market demands of the content's 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	• correct logical and coherent application of the concepts learned • logical and accurate explanation and interpretation of the results;	Final Exam (during the exam session)	50%
10.5 Seminar/laboratory	• the ability to apply concepts learned in practice • correct logical and coherent application of the concepts learned • economic explanation of the results	Project (during the semester)	30% (20% project+10% presentation)
	• interest in individual preparation throughout the whole semester	solving tasks (during the semester)	20%
10.6 Minimum standard of performance			
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.			

11. Labels ODD (Sustainable Development Goals)[1]

Not Appliable

Date:	Signature of course coordinator	Signature of seminar coordinator
12.03.2025	Ioan Cristian CHIFU, PhD	Ioan Cristian CHIFU, PhD

Date of approval:	Signature of the head of department
10.04.2025	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*.".