Syllabus

1. Programme information

1.1. Institution	THE BUCHAREST UNIVERSITY OF ECONOMIC STUDIES
1.2. Faculty	Business Administration in Foreign Languages
1.3. Departments	Department of Statistics and Econometrics
1.4. Field of study	Business Administration
1.5. Cycle of studies	Licence
1.6. Education type	Full-time
1.7. Study programme	Business Administration (in English language)
1.8. Language of study	English
1.9. Academic year	2019-2020

2. Information on the discipline

2.1. Name	**Econometrics**								
2.2. Code	**19.0153IF3.1-0005**								
2.3. Year of study	**3**	2.4. Semester	**1**	2.5. Type of assessment	**Exam**	2.6. Status of the discipline	**O**	2.7. Number of ECTS credits	**5**

2.8. Leaders	C(C)	**prof.univ.dr. ŞERBAN Daniela**	daniela.serban@csie.ase.ro
	S(S)	**prof.univ.dr. ŞERBAN Daniela**	daniela.serban@csie.ase.ro

3. Estimated Total Time

3.1. Number of weeks	14.00		
3.2. Number of hours per week	4.00	of which	
		C(C)	2.00
		S(S)	2.00
3.3. Total hours from curriculum	56.00	of which	
		C(C)	28.00
		S(S)	28.00
3.4. Total hours of study per semester (ECTS*25)	125.00		
3.5. Total hours of individual study	69.00		
Distribution of time for individual study			
Study by the textbook, lecture notes, bibliography and student's own notes	20.00		
Additional documentation in the library, on specialized online platforms and in the field	10.00		
Preparation of seminars, labs, assignments, portfolios and essays	20.00		
Tutorials	4.00		
Examinations	4.00		
Other activities			

4. Prerequisites

4.1. of curriculum	Mathematics, Economcs, Management, Marketing, Statistics
4.2. of competences	Strategic Management, Business Management, Micro and Macro-Economics

5. Conditions

for the C(C)	Courses are held in classrooms with internet and multimedia acces
for the S(S)	classrooms with internet and programs

6. Acquired specific competences

PREFESSIONAL	C1	Data gathering, formatting and analysis regarding the interaction between the external environment and the organization
PREFESSIONAL	C5	Utilization of databases specific to business administration

7. Objectives of the discipline

7.1. General objective	prezenting and explaining introductive methods of Econometrics for Business Administration
7.2. Specific objectives	Invatarea principalelor tehnici econometrice bazate pe studiul modelului liniar de regresie ai a modelului multiplu, prezentarea modelelor nonliniare si a celor pentru variabile binare, prezentarea metodelor de prognoza pe baza analizei de regresie

8. Contents

8.1. C(C)		Teaching/Work methods	Recommendations for students
1	Introduction to Econometrics. Concepts used in Econometrics, categories of data used for econometrical analysis and their main sourses	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
2	Advanced Inferential Statistics concepts important for econometrical modeling as sampling distributions other than the gauss Laplace function, estimation using opened confidence classes, hypotesis testing for 2 samples, testing the ratio between variances	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
3	Fundamentals of regression analysis. categories of models. indicators charactering the intensity of the corelation between two variables	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
4	Liniar regression with one regressor. identifying and specifying the model, estimating the model coefficients using OLS method. hypothesis of the simple liniar model	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
5	Confidence classes and hypothesis testing for the simple liniar regression model, Inference using p-value method	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
6	Validity of the simple liniar regression model. fisher test. ANOVA method applied for regression analysis. The quality of the regression line	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
7	Ppredictions from the regression line. confidence classes for the predicted values	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project

8	Regression models with binary variables	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
9	TEST	WRITTEN TEST	WITH INDIVIDUAL LIST OF FORMULAS
10	Multiple regression model. regression with 2 or many regressors. identifying and specifying the model, estimating the model coefficients, analysing the intensity of the multiple stochastic relationship.	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
11	Treatment of the problems affecting the multiple regression model MALTHUS: multicolinearity (VIF), heteroskedasticity (White test), eroors autocorrelation (Durbin Watson), and verifying the normality of the errors distribution (Jarque-Bera test)	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
12	Confidence classes and hypothesis testing for the multiple regression model	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
13	Nonlinear regresssion models. 2nd degree ecuations and lin-lin, lin-log and lo-log ecuations	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project
14	Time series regression. Autoregressive models	interactive teaching based on slides and free speech and acces to internet and multimedia equipment	attending classes and usage of concrete data bases for project

Bibliography

- Bourbonnais, R., Econometrie, maison d'Edition Dunod, 1998, Paris, 1998, Franţa
- Curvin J., , Quantitative methods for Business Decisions, Prentice Hall, NY, 2001, Statele Unite ale Americii
- Eckey HF, Kosfeld, R., Dreger, C, Oeconometrie, gabler verlag, Wiesebaden, 2004, Germania
- Mitrut, C., Serban, D., Basic Econometrics for Business Administration, ASE, BUCHAREST, 2005, România
- STOCK JH, Watson, MW, Introduction to Econometrics, Pearson International, NY, 2007, Statele Unite ale Americii
- Tanasoiu, OE, Iacob, AI,, Introduction a l'econometrie, ASE, BUCHAREST, 2008, România

8.2. S(S)		Teaching/Work methods	Recommendations for students
1	Presenting the categories of econometrical models. categories of data for econometrical analysis. reviewing the least squares method	using excel as support together with manual computations	attending classes and usage of concrete data bases for project
2	Advanced Inferential Statistics, hypothesis testing for 2 samples of normal small volume	using excel as support together with manual computations	attending classes and usage of concrete data bases for project
3	Simple liniar regression model indicators and coefficients. interpreting the regression output from specialized programs	using excel as support together with manual computations	attending classes and usage of concrete data bases for project
4	Testing the validity of the liniar regression model. inference from the regression equation. interpreting the software outputs	using excel as support together with manual computations	attending classes and usage of concrete data bases for project
5	Multiple regression. Indicators and coefficients. Interpreting the software outputs	using excel as support together with manual computations	attending classes and usage of concrete data bases for project
6	Nonlinear models and models with binary variables. interpreting the software outputs	using excel as support together with manual computations	attending classes and usage of concrete data bases for project
7	Using regression analysis for forecasting, interpreting the software outputs	using excel as support together with manual computations	attending classes and usage of concrete data bases for project

8	Multiple liniar regression. Estimation of the coefficients, confidence classes, validity of the model, interpreting different outputs	using excel, eviews, stata, spss and r as support together with manual computations	
9	Classical hypothesis of the multiple regression model, multicolinearity, checking the data to avoid outliers	using excel, eviews, stata, spss and r as support together with manual computations	
10	Discussiong the test results. chosing the best significance testing/redoing the test	using excel, eviews, stata, spss and r as support together with manual computations	
11	Classical hypothesis upo the residuals, normality, homoskedasticity and autocorrelation	using excel, eviews, stata, spss and r as support together with manual computations	
12	Nonlinear models and models with binary variables	using excel, eviews, stata, spss and r as support together with manual computations	
13	Using regression for forecasting purposes	using excel, eviews, stata, spss and r as support together with manual computations	
14	Presenting the project and addressing individual questions by the teacher	using excel, eviews, stata, spss and r as support together with manual computations	
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Bibliography

- Bourbonnais, R., Econometrie, maison d'Edition Dunod, 1998, Paris, 1998, Franţa
- Curvin J., , Quantitative methods for Business Decisions, Prentice Hall, NY, 2001, Statele Unite ale Americii
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9. Corroboration of the contents of the discipline with the expectations of the representatives of the epistemic community, of the professional associations and representative employers in the field associated with the programme

Discussing the content of the discipline with expert from the Romanian Society of Econometrics, the national Institue of Statistics, the National Bank and representants of entrepreneurs and large companies in order to improve the practical character of the discipline. Graduation licence paper coordination using econometrical models and concrete data bases, reflecting the economic reality.

10. Assessment

Type of activity	Assessment criteria	Assessment methods	Percentage in the final grade
10.1. C(C)	course finalized with a written exam with minimun 3 subjects	written exam	70.00
10.2. S(S)	test counting with 15% from the final mark, project counting with 15% from the final mark and activity counting just for rounding up the final mark, this action will not be done for students presents less than half of classes	written test, individual project sent printed, on a cd and by email	30.00

10.3. Final assessment	written exam securized name representing 50% out of the final mark ladting 2 hours	the algorithm: 70% out of the final mark is represented by the exam mark and the rest of 30% is represented by during year activity (test, project and activity)	
10.4. Modality of grading	Whole notes 1-10		
10.5. Minimum standard of performance	5 points obtained after the algorithm application: during year mark*0.3 + exam mark*0.7		

Date of listing,
10/25/2021

Signature of the discipline leaders,

Date of approval in the department

Signature of the Department Director,