Pedagogic case and specific course in which designed tasks and units are used

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Pedagogic case:	• Inquiry-based approach to topic "Multiple regression: construction and model analysis " within the discipline "Econometrics" for 2-nd year students in the specialty "Management", "Finance"
Description (including temporal scheme for design, development and implementation)	• To create IBL tasks and to select forms of organization of educational process, which will help to attract students to conduct research of economic processes using econometric modeling. • Planning: - design: March-May 2019, - development: June-July 2019, - implementation: September-December 2019.

Aim of pedagogic case	• Engage students in the implementation of the algorithm of construction and analysis of econometric model; • Create conditions that will enable students to conduct their own research on the economic process and formulate the hypothesis; • monitoring of educational achievements of students;
Mathematical concepts	• Methods for estimating the parameters of an econometric model taking into account the specifics of specific economic information (the least squares method, the Generalized least squares method); • Evaluating the reliability of the model and its parameters (correlation coefficient calculation and determination, the approximate relative error of approximation, the elasticity coefficient); • Study for the multicollinearity (Farrar-Glauber Test) heteroskedasticity (Goldfeld-Quandt test, m-test) and autocorrelation (Durbin-Watson test, Von Neumann criterion); • Verification of the reliability of the econometric model and its parameters (The Fisher method, Student's method); • Methods of econometric forecasting (point and interval).
Addressed practice	• 2-nd year of bachelor program in Management, Finance
Place in specific course Course name Place of units	• Course "Econometrics", 1st semester 2-nd year of studying. • The topic " Multiple regression: construction and model analysis "
Learners profile orientation, year, age, prior knowledge, other such as math anxiety, special needs, ..	• Students "Management", "Finance" • 2-nd year students • Prior knowledge - the course "Higher and Applied Mathematics", "Theory of probability and mathematical statistics" for students of the specialty "Management" and "Higher mathematics for financiers" at the students of the specialty "Finance", Module "Construction and research of the simplest model" of the econometrics course • Educational content demonstrating the practical application of mathematical tools for future careers
Organisation of specific course study credits/hours, location, group size	• 4 credits ECTS (120 hours) • The course runs weekly from September to December 2019. • 40 students, 2 groups
Expected learning	• the acquisition of students' skills in: o selection of factors that should enter the

outcomes	econometric model, o construction and analysis multi factor econometric models; o the basic economic characteristics of interaction and their correct interpretation are determined; o using information technology to construction and analysis of econometric models o determination of predictive properties of the model; o the use of econometric models in economic research.
Envisioned use of digital technology	• Moodle distance learning system - for access to education materials on discipline, • MS Excel - for construction models.
Planning of tasks	• Creating IBL tasks, • Selection of forms of educational activities from the point of view of the teacher's actions as a facilitator, • Selection of statistical databases • Discussion of tasks and forms of students educational activity with colleagues mathematicians, • Filling the e-course in the Moodle system with teaching materials on the basis of IBL, • Development of the questionnaire: "Monitoring the student's knowledge of the course" Econometrics " • Discusses the results of interim control of students' progress with students and colleagues.
Names of persons involved	• Oksana Hlushak
Course:	Econometrics
Learning objectives	• To acquaint with the basics of the modern mathematical apparatus necessary for solving theoretical and applied problems in the economy; • To form skills of mathematical research of applied problems; • To construction economic and mathematical models; • To form logical thinking.
Learning contents	• History of the emergence and formation of econometrics • Classification of mathematical models. The main stages of economic-mathematical modeling. • The simplest econometric model: binate linear regression • Multiple regression: selection of factor variables. • Multiple regression: construction and model analysis.

	• Multiple regression: research on multicollinearity. • Heteroscedasticity: its essence and consequences. • Revealing autocorrelation and elimination of consequences of its influence.
teaching /learning activities	• Weekly 1 lecture (2 hours), 1 practical work (2 hours), independent work with materials of the electronic course in the system of distance learning Moodle (4 hours)
Media	• Electronic course materials in distance learning system Moodle, MS Excel.
Evaluation	• During the semester: practical tasks, passing tests, presentation of construction and econometric model analysis, self-assessment by a student.
Instructor role	• Development of teaching materials on the basis of IBL, • Lectures and practical training as a facilitator, • Student motivation • Involve students in discussing and conducting research, • Organization of joint training (group work), • Monitoring learning achievements
Student roles	• Active participation in the discussed issues in the classes, • Formulating questions • Preparation for classroom activities • Initiative • Evaluation own progress
Other aspects	•