

Identification	Subject	ECON 450 Econometrics – 3KU credits/6ECT
	Department	Economics and Management
	Program	Undergraduate
	Term	Spring 2023
	Instructor	Vusal Mammadrzayev
	E-mail	vusal.mammadrzayev@khazar.org
	Classroom/hours	
	Language	English
Prerequisites	MATH 225 Mathematics for Economics and Business	
Compulsory/ Elective	Compulsory	
Textbooks and course materials	<p>1) “Introductory Econometrics: a Modern Approach”, Jeffrey M. Wooldridge, 4th Edition. (JW) <i>(Will be provided by Instructor during Class)</i></p> <p>Additional reading (might be updated):</p> <p>2) “Basic Econometrics”, Damodar Gujarati, Dawn Porter 5th Edition <i>(Will be provided by Instructor during the Class)</i></p> <p>3) Paul Newbold, William L. Carlson and Betty M. Thorne “Statistics for Business and Economics”, 8th edition, 2013. (NW)</p> <p>4) Acock, Alan. 2010. A Gentle Introduction to Stata, 3rd Edition. College Station: Stata Press. <i>(Will be provided by Instructor during the Class)</i></p>	
Course objective and content	<p>This course provides an introduction to the econometric techniques used to analyze data sets in business, economics, finance and statistical theories. It builds on simple and multiple linear regression models. The focus is on understanding how to apply statistical and econometrics tools to the analysis of business and economic applications. The class will cover various topics related with regression analysis, estimation, economic indicators, and surveys. The topics covered in this course include least squares analyses; properties of least squares estimators; statistical inference in simple and multiple regression; regression with dummy variables.</p>	
Learning Outcomes	<p>By the end of the course the students will be able to:</p> <ul style="list-style-type: none"> - Developing a hypothesis, a research problem, and related questions - Framing the problem with the correct research methodology - Collecting data that accurately addresses the research problem - Measuring the effectiveness of estimation results - Conducting simple and linear regression analysis - Using data to make decisions - Presenting data to support the certain economic policy or events 	
Grading System	Methods	Percentage (%)
	Midterm Exam	30
	Attendance	5
	Activity	5
	Home Assignments	10
	Quizzes (2)	10

		Final Exam	40
		Total	100
Policy		<p>- Attendance Policy 5 % of final grade will be given for class attendance. Students should attend all classes. The proof of reason for unavoidable absence has to be provided by student. In this case, the absence will not be resulted with grade subtraction. Students should come to the classes on time. Late arrival more than 15 minutes will be resulted as absence on the attendance sheet. In case of late arrival, student has to inform Instructor in advance.</p> <p>- Class participation in this course: 5% of the final grade will be given for class participation. It is required from students to contribute to the class discussion and actively participate in team works. The quality of contribution will be the main factor not the quantity of contribution.</p> <p>Home Assignments Group Research report should comprise of the following sections:</p> <ol style="list-style-type: none">1. Introduction2. Hypothesis development3. Data4. Econometric model5. Estimation result and interpretations6. Conclusions7. References <p>Groups shall consist of min 3 and max 4 students. You should hand in group report before the presentations. Presentations shall not be more than 10-14 slides and 15 minutes. More details about the assignments will be provided during the course. Besides this, after the presentations I will ask questions to each team member individually for their individual presentation grading. Correct answers will save you from losing. Additional questions may be asked if necessary. Deadline of this group research is due on 14th week of semester.</p> <p>Quiz Each quiz is 5% of final grade and will take 35 minutes. The first Quiz is planned to hold on the 5th week of the semester. The second one will be conducted on the 11th Week of semester.</p> <p>Academic Dishonesty Students are expected to conduct themselves in a professional manner. Academic dishonesty such as plagiarism and cheating will not be tolerated. Therefore, students are expected to be honest and ethical in their academic work. Cases of academic dishonesty will be immediately reported to the Director’s office for disciplinary action.</p> <p>Office Hours The instructor will be available to consult with students regarding class related questions regularly by appointment. Meetings with students outside office hours should be scheduled in advance by sending an e-mail to the instructor.</p>	
Tentative Schedule			
Week		Topics	Textbook/Chapters
1		Review of Probability distribution. Introduction	Chapter 4 and 5 (NW)

		to STATA.	
2		Introduction to Econometrics. Hypothesis Testing. Introduction to STATA software.	Chapter 9 (NW)
3		The Simple Regression Model. OLS method and assumptions. Goodness of Fit.	Chapter 1 and 2 (JW)
4		The Simple Regression Model. The variance and expected value of OLS estimators. Units of Measurement and Functional forms.	Chapter 2 (JW)
5		Multiple linear regression. The mechanics and interpretation of ordinary least squares (Quiz 1)	Chapter 3.1, 3.2 (JW)
6		Multiple linear regression. The mechanics and interpretation of ordinary least squares	Chapter 3.1, 3.2 (JW)
7		Testing Hypothesis about single population parameter in the multiple linear regression.	Chapter 4.1, 4.2, 4.3, 4.4 (JW)
8		Midterm-exam Testing Hypothesis of Multiple linear restrictions.	Chapter 4.5 and 4.6 (JW)
9		Effects of data Scaling on OLS Statistics. <i>Beta Coefficients</i> . <i>Different</i> Functional Form.	Chapter 6.1 and 6.2 (JW)
10		More on Goodness of fit and selection of regressors. Prediction and residual analysis. (Quiz 2)	Chapter 6.3 and 6.4 (JW)
11		Multiple Linear Regression with Qualitative Information: Binary (Dummy) variables.	Chapter 7 (JW)
12		Heteroskedasticity and testing it. White test	Chapter 8 (JW)
13		Functional form of misspecification. RESET test. Proxy variable for unknown explanatory variable.	Chapter 9 (JW)
14		Basic Regression Analysis with time series data.	Chapter 10 (JW)
15		Course Review/ Home assignment	
		Final Exam	