GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	MICROECONOMETRICS, PG_00070482		
Field of study	Economic Analytics		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	second-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Statistics and Econometrics -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Dagmara Nikulin	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	30.0	0.0	0.0	45

E-learning hours included: 0.0

eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=46444#section-0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	45	3.0	27.0	75

Subject objectives

preparing students to identify and analyze microeconomic relationships using individual-level data, based on knowledge of econometric models applied to binary, qualitative, and limited dependent variables, and to foster attitudes related to critical interpretation of results and responsible selection of analytical methods in the context of socio-economic phenomena analysis.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U03] formulates research hypotheses and select appropriate methods for their verification using advanced it tools.	can formulate research problems and verify hypotheses by applying appropriate microeconometric methods and IT tools to microdata, providing justified interpretations of results	[SU4] Assessment of ability to use methods and tools
[K7_W02] understands the significance and interrelationships of key components describing economic processes, drawing on in-depth knowledge aligned with major developmental trends in scientific disciplines related to the field of economic analytics.	knows and understands advanced microeconometric methods in the context of models for binary, qualitative and limited dependent variables discussed in the course and their use in analysing actual socio-economic processes	[SW1] Assessment of factual knowledge

Subject contents

Course content – lecture

1. Introduction to Microeconometrics. Modeling Based on Linear Regression Models.
2. The Probit Model: Assumptions, Estimation, Applications, Interpretation
3. The Logit Model: Assumptions, Estimation, Applications, Interpretation
4. The Ordered Logit Model: Assumptions, Estimation, Applications, Interpretation
5. The Unordered Logit Model: Assumptions, Estimation, Applications, Interpretation
6. Constrained Variable Models: Assumptions, Estimation, Applications, Interpretation
7. The Poisson Regression Model: Assumptions, Estimation, Applications, Interpretation
8. Impact Assessment: Estimation by Matching.

Course content – laboratory

1. Introduction to working with microeconometric data.
2. Data preparation and preliminary data analysis.
3. Estimation and interpretation of the linear regression model.
4. Assessment of the goodness of fit of the linear model.
5. Estimation and interpretation of the probit model.
6. Estimation and interpretation of the logit model.
7. Comparison of the probit and logit models.
8. Estimation of the ordered logit model.
9. Interpretation of results for ordinal variables.
10. Estimation of the multinomial logit model.
11. Interpretation of results for multicategorical variables.
12. Estimation of limited dependent variable models.
13. Estimation and interpretation of the Poisson regression model.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Individually solved tasks in the form of a written colloquium	60.0%	50.0%
Oral assessment (problem questions)	60.0%	30.0%
Analysis of the scientific text	60.0%	20.0%

Recommended reading

Basic literature	1. Gruszczynski, M. (red. nauk.), Mikroekonometria. Modele i metody analizy danych indywidualnych. Wolters Kluwer Polska, 2012. 2. Cameron, C.A. and Trivedi, P.K. Microeconometrics: methods and applications. Cambridge University Press, 2005.
Supplementary literature	http://microdata.worldbank.org - The microdata library facilitates access to data collected during representative surveys of households, enterprises and other entities.
eResources addresses	

Example issues/ example questions/ tasks being completed

- Using the available microdata from Eurostat, analyze the probability of becoming unemployed using the available individual data. Discuss the results.
- Estimate a model explaining wage development in European Union countries using a multi-level logit model.
- Provide examples of the use of microdata in finance.

Practical activites within the subject

Not applicable

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