GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Modeling Sustainable Development, PG_00067956		
Field of study	Economics		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Optional subject group 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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department Of Statistics And Econometrics -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej		

Name and surname of lecturer (lecturers)	Subject supervisor	
	Teachers	

Lesson types and methods of instruction	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						

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	5.0	50.0	100

Subject objectives	Describes the possibilities of using quantitative methods in terms of their selection and obtaining reliable data

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U07] uses advanced information technologies to enhance data analysis and decision-making processes.	is able to apply tools for the quantitative analysis of the implementation of the sustainable development concept.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information
	[K6_W03] is familiar with reliable sources of information and employs advanced knowledge to explain the fundamental dilemmas of the contemporary economy	is familiar with reliable sources of information required for modeling sustainable development	[SW3] Assessment of knowledge contained in written work and projects

Subject contents	Sustainable development as an example of a multidimensional phenomenon. Selection of indicators of sustainable development. Composite indicator of sustainable development - stimulation and normalization of variables. Composite indicator of sustainable development - aggregation and weighting of variables. Sensitivity analysis of the composite indicator of sustainable development. Linear ordering of countries according to the degree of achievement of the SDGs. Grouping countries according to the degree of achievement of the SDGs - taxonomic analyzes. The spatial taxonomic measure of sustainable development. Convergence in monitoring the achievement of the SDGs.

Prerequisites and co-requisites	basic statistical and econometric skills

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Group project	60.0%	100.0%

Recommended reading	Basic literature	Perło, D. (2014). Modelowanie zrównoważonego rozwoju. Białystok: Wydawnictwo Uniwerysteckie Trans Humana. Panek, T. Zwierzchowski, J. (2013). Statystyczne metody wielowymiarowej analizy porównawcze. Teoria i zastosowania, Warszawa: Oficyna Wydawnicza SGH. Młodak, A. (2006). Statystyczna analiza wielowymiarowa w statystyce regionalnej, Warszawa: Difin.
	Supplementary literature	OECD (2008). Handbook on Constructing Composite Indicators. Methodology and User Guide. Paris: OECD Publications.
	eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	Construct a composite indicator for the 7th sustainable development goal. Prepare a linear ordering and group the European Union countries in terms of achieving this goal. Assess the convergence trends in the implementation of the seventh SDG.
Work placement	Not applicable

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