



Subject card

Subject name and code	FINANCIAL ENGINEERING, PG_00061630						
Field of study	Management						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2025/2026		
Education level	second-cycle studies		Subject group		Specialty subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies (on-line)		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Finance -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ewa Mazurek-Krasodomska				
	Teachers		dr inż. Ewa Mazurek-Krasodomska				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	8.0	16.0	0.0	0.0	0.0	24
	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	24		5.0		46.0	75
Subject objectives	Values derivatives using them to reduce financial risk						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W04] analyzes complex management problems in an in-depth way on the basis of reliable data and properly selected methods, obtaining logical solutions		analyzes various types of derivatives, obtaining innovative solutions to the problems of financing the organization's activities		[SW1] Assessment of factual knowledge		
	[K7_K02] makes competent and ethical decisions, taking care of the public interest and maintaining economic, social and environmental values		uses the results of analyzes to make decisions in order to create and maintain economic, social and environmental values		[SK5] Assessment of ability to solve problems that arise in practice		
Subject contents	The essence and application of financial engineering Derivatives and their classification Valuation of forward contracts for assets Currency forwards/futures Commodity forwards/futures Valuation of FRA contracts Valuation and construction of currency swap contracts Valuation and construction of interest rate swap contracts Option pricing using the binomial model The Black-Scholes model in option pricing Greek coefficients Option strategies and examples of their use Exotic derivatives and their use Strategies for investing in derivatives Efficiency of hedging strategies						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	2 tests per semester		60.0%		50.0%		
	Exam		60.0%		50.0%		

Recommended reading	Basic literature	Hull, J. (1997). Kontrakty terminowe i opcyjne. Wprowadzenie. Warszawa: WIG Press Hull, J. C.(2011). Zarządzanie ryzykiem instytucji finansowych. Warszawa: Wydawnictwo Naukowe PWN Jajuga. K. (2015). Inwestycje: instrumenty finansowe, aktywa niefinansowe, ryzyko finansowe, inżynieria finansowa. Warszawa: Wydawnictwo Naukowe PWN Jajuga, K. (red.). (2020). Zarządzanie ryzykiem . Warszawa: Wydawnictwo Naukowe PWN
	Supplementary literature	Bartkowiak, M. (2014). Instrumenty pochodne. Wprowadzenie do inżynierii finansowej. Poznań: Wydawnictwo Uniwersytetu Ekonomicznego w Poznaniu Pruchnicka-Grabias, I.(2012). Egzotyczne opcje finansowe. Systematyka, wycena, strategia. Warszawa: CeDeWu Weron, A., Weron, R. (2019). Inżynieria finansowa. Wycena instrumentów pochodnych. Symulacje komputerowe. Statystyka rynku. Warszawa: Wydawnictwo Naukowo-Techniczne
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Binomial model Black-Scholes model	
Work placement	Not applicable	

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