



Subject card

Subject name and code	DERIVATIVES IN FINANCIAL MANAGEMENT, PG_00071053						
Field of study	Economic Analytics						
Date of commencement of studies	October 2026	Academic year of realisation of subject				2027/2028	
Education level	second-cycle studies	Subject group				Specialty 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	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 -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Ewa Mazurek-Krasodomska					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	30.0	0.0	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		3.0		27.0	75
Subject objectives	preparing students to analyze and apply derivative instruments in managing an organizations finances, drawing on finance knowledge and analytical methods, and fostering attitudes toward ethical decision-making in the context of mitigating financial risk.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W06] knows and understands the principles of evaluating the reliability of utilized data, applying in-depth specialized knowledge in the field of economic analysis.	knows and understands the principles of assessing the reliability of data used in the analysis and valuation of derivatives and their importance for sound financial decision-making.			[SW1] Assessment of factual knowledge		
	[K7_K02] acts entrepreneurially, making competent and ethical decisions that consider the public interest as well as economic, social, and environmental values.	is prepared to make ethical decisions regarding the use of derivative instruments, particularly through participation in team-based analyses and discussions related to the assessment of an organization's financial risk.			[SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice		
	[K7_U04] is able to prepare and convincingly present the results of specialized analyses, providing in-depth interpretation during debates and meetings with various audiences.	is able to develop and present analyses of derivatives application, formulating coherent and well-justified conclusions based on data.			[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task		

Subject contents	Course content – lecture														
	<ol style="list-style-type: none"> 1. The essence of derivatives and their classification 2. Valuation of forward contracts for assets 3. Valuation of FRA contracts 4. Swap pricing 5. Option pricing binomial model and Black-Scholes model 6. The use of futures contracts to hedge against currency risk 7. The use of futures contracts to hedge against interest rate risk 8. Option strategies - examples of use 9. Using swaps to hedge risk 														
Prerequisites and co-requisites	Course content – exercises														
	<ol style="list-style-type: none"> 1. Valuation of futures/forward contracts on assets 2. Valuation of futures contracts on shares of publicly listed companies 3. Forecasting future exchange rates based on market data 4. Valuation of FRA contracts 5. Forecasting future interest rates 6. Estimation of future cash flows in a swap contract 7. Option valuation using the binomial model 8. Option valuation using the BlackScholes model 9. Use of derivatives to hedge foreign exchange risk 10. Use of derivatives to hedge interest rate risk 														
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Subject passing criteria</th> <th style="width: 33%;">Passing threshold</th> <th style="width: 33%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Knowledge test</td> <td>60.0%</td> <td>40.0%</td> </tr> <tr> <td>Team case study analysis</td> <td>60.0%</td> <td>50.0%</td> </tr> <tr> <td>Self-assessment and written reflection.</td> <td>0.0%</td> <td>10.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Knowledge test	60.0%	40.0%	Team case study analysis	60.0%	50.0%	Self-assessment and written reflection.	0.0%	10.0%
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	Team case study analysis	60.0%	50.0%												
Self-assessment and written reflection.	0.0%	10.0%													
Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Hull J., Kontrakty terminowe i opcyjne. Wprowadzenie, WIG Press, Warszawa 1997 2. Hull J. C., Zarządzanie ryzykiem instytucji finansowych, Wydawnictwo Naukowe PWN, Warszawa 2021 3. Jajuga K., Inwestycje: instrumenty finansowe, aktywa niefinansowe, ryzyko finansowe, inżynieria finansowa, Wydawnictwo Naukowe PWN, Warszawa 2011 4. Zarządzanie ryzykiem, red. K. Jajuga, Wydawnictwo Naukowe PWN, Warszawa 2018 													
	Supplementary literature	<ol style="list-style-type: none"> 1. Dębski W., Rynek finansowy i jego mechanizmy, Wydawnictwo Naukowe PWN, Warszawa 2014 2. Goławska-Witkowska G., Rzeczycka A., Instrumenty pochodne w ograniczaniu ryzyka bankowego, Katedra Finansów, WZiE, PG, Gdańsk 2009 3. Kalinowski M., Zarządzanie ryzykiem stopy procentowej w przedsiębiorstwie, CeDeWu, Warszawa 2009 4. Kalinowski M., Zarządzanie ryzykiem walutowym w przedsiębiorstwie, CeDeWu, Warszawa 2008 5. Pruchnicka-Grabias I., Egzotyczne opcje finansowe. Systematyka, wycena, strategie, CeDeWu, Warszawa 2021 													
	eResources addresses														
Example issues/ example questions/ tasks being completed	Binomial model. Black-Scholes model														
Practical activities within the subject	Not applicable														

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