GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Financial Mathematics, PG_00049700
Field of study	Management

Date of commencement of studies	October 2022	Academic year of realisation of subject	2023/2024
Education level	first-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	2	Language of instruction	English English
Semester of study	4	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	exam

Conducting unit	Department of Finance -> Faculty of Management and Economics

Name and surname of lecturer (lecturers)	Subject supervisor	dr Piotr Kasprzak
	Teachers	dr Piotr Kasprzak

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	0.0	0.0	30
	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	30	6.0	39.0	75

Subject objectives	Introducing students to the basic mathematical concepts and tools used in finance and banking.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U04] describes financial problems in different areas of the organisation's functioning	Student can see the financial aspects of the decisions taken in the company.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information
	[K6_W08] has a basic knowledge of the methods and tools used to conduct research related to particular areas of business activity	Student knows the mathematical tools used to measure the impact of the time to value of money.	[SW1] Assessment of factual knowledge

Subject contents	Time value of money introduction; Simple interest, discount rate, compound interest, continuous compounding; Nominal, equivalent, effective and average rate of interest; Inflation rate and real rate of interest; Valuation of short-term securities (bonds and other securities); Annuity immediate and annuity due ; Perpetuities; Annuities payable more and less frequently than interest is convertible; Payments varying in arithmetic and geometric progression; Repayment of debts analysis Valuation of short and long-term securities; Using a spreadsheet in financial mathematics.
Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final exam	60.0%	20.0%
	Midterm colloquium	60.0%	80.0%

Recommended reading	Basic literature	1. Kellison S. G., The Theory of Interest, McGraw-Hill, 2008.
	Supplementary literature	1. Newnan D. G., Engineering Economic Analysis, Engineering Press, Inc., San Jose, California, 1991. 2. Lyuu Y.-D., Financial Engineering and Computation. Principles, Mathematics, Algorithms, Cambridge University Press, 2002.

	eResources addresses	Adresy na platformie eNauczanie: Financial mathematics (exercises) STACJONARNE LATO 2024 - Moodle ID: 36501 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36501
Example issues/ example questions/ tasks being completed	Calculation of the future value of investments, credit instalments and expected retirement value.	
Work placement	Not applicable	

Document generated electronically. Does not require a seal or signature.