


KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez
Unię Europejską w ramach
Europejskiego Funduszu
Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY


Course title			ECTS code	
Financial Mathematics			4.3.1917	
Name of unit administrating study				
Faculty of Management				
Studies				
faculty		field of study		type
Faculty of Management		Finance and Accounting		first tier studies (BA)
				form
				specialty
				specialization
				all
				all
Teaching staff				
dr Ewelina Nawrocka; dr hab. Anna Wojewnik-Filipkowska; mgr Rafał Kramer; mgr Rafał Kowalski; dr Krzysztof Szczepaniak				
Forms of classes, the realization and number of hours			ECTS credits	
Forms of classes			5	
Auditorium classes, Lecture			Total ECTS – 5 of which:	
The realization of activities			0,5 ECTS (15h) participation in lectures	
classroom instruction			1 ECTS (30h) participation in tutorials	
Number of hours			1,5 ECTS (45h) individual literature studying and consultation	
Auditorium classes: 30 hours, Lecture: 15 hours			1 ECTS (30h) preparation of presentation and case solving	
			1 ECTS (30h) preparation for the final exam	
The academic cycle				
2023/2024 summer semester				
Type of course		Language of instruction		
obligatory		English		
Teaching methods		Form and method of assessment and basic criteria for eveluation or examination requirements		
- discussion - multimedia-based lecture - problem solving		Final evaluation		
		- Graded credit		
		- Course credit		
		Assessment methods		
		- Classes: calculation tasks, tests		
		Lectures: test		
		- (mid-term / end-term) test		
		- assignment work – completing a specific practical assignment		
		The basic criteria for evaluation		
		Knowledge of program content, knowledge of the literature studied by the student.		
Method of verifying required learning outcomes				
Required courses and introductory requirements				
A. Formal requirements				
Subjects according to the education cycle.				
B. Prerequisites				
The student knows the basic categories in the field of finance according to the education cycle.				
Aims of education				
Introduction to basic rights and principles of financial mathematics essential financial analyst work.				
Course contents				

Interest rates. Simple interest rates. Present value of a single future payment. Discount factors.
 Effective and nominal interest rates. Real and money interest rates. Compound interest rates. Relation between the time periods for compound interest rates and the discount factor.
 Annuities and perpetuities.
 Debt repayment schedules.
 Introduction to fixed-income instruments. Generalized cashflow model.
 Net present value of a sequence of cashflows. Internal rate of return. Investment project appraisal.
 Examples of cashflow patterns and their present values.
 Elementary compound interest problems.

Bibliography of literature

John McCutcheon and William F. Scott, An Introduction to the Mathematics of Finance, Elsevier Butterworth-Heinemann, 1986. ISBN 0-7506-0092-6.

The learning outcomes (for the field of study and specialization)

FiR1_W06

FR1_U04

FR1_K01

FR1_K02

FR1_K03

Knowledge

FiR1_W06 - knows methods and tools, including data acquisition and analysis techniques, appropriate for economic sciences, allowing to describe economic structures and institutions as well as processes within and between them

Skills

FR1_U04 - forecasts economic processes and phenomena in the field of finance and accounting using standard methods and tools

Social competence

FR1_K01 - knows limitations of own knowledge and skills and understands the need of life-long learning and supplementing acquired knowledge and skills; indicates trends of own development and learning

FR1_K02 - cooperates in a team and undertakes various team roles, has elementary organizational skills which allow to accomplish goals connected with planning and undertaking professional activities

FR1_K03 - communicates with the surrounding properly, determines priorities leading to accomplishment of own or others tasks and bears responsibility for undertaken activities

Contact

ewelina.nawrocka@ug.edu.pl