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Understanding of consequences of time value of money and the pa Knowledge of basic notions necessary to formulate mathematical r			
Study outcomes and reference to the edu	odels used in economics. Ac preadsheets for doing calcul	cquaintance with notions lations and graphics.	
Knowledge:	tmonto and incurses		
 Ability to compare various offers of savement plans, credits, inve Understanding processes and limitations of economy and model 			
Skills:	iy mem mamemancally [N	_***** +1_** 12 ++]	
 Analyze time value of money, especially credits and annuities co ife insurances. - [K_U11 +K_U28 ++K_U37+++] 	ditions. Mastering actuarial r	notation and fundaments of	
2. Advanced using of spreadsheets for quantitative analysis of fina	ce problems [K_U28]		
Social competencies:			
1. Understanding problem of financialization of social life and its n	gative consequences [K_	_K01+K_K03 ++K_K04+++]	
Assessment methods of study outcomes			
· · ·			
Lecture: 1. Written exam (theoretic and practical problems).			

Practical lessons:

Laboratories:

Valuation of skill in computer use for solving problems. Individual problems to solve at home and making presentation.

One large test (solving problems). Valuation of activity and student?s answers during classes.

Course description

Time value of money. Annuities and perpetuities. Repayment of debts and credit costs. Financial market. Introduction to asset pricing. Demographic model and life-insurance mathematics. Calculation of premiums and reserves. Utility theory.

Basic bibliography:

1. B. Błaszczyszyn, T. Rolski, Podstawy matematyki ubezpieczeń na życie, WNT, 2004

2. K. Jajuga, T. Jajuga, Inwestycje. Instrumenty finansowe, aktywa niefinansowe, ryzyko finansowe, inżynieria finansowa, PWN, Warszawa 2006.

3. J. Klimkowska, M. Podgórska, Matematyka finansowa, PWN, Warszawa 2005

Additional bibliography:

1. N. L. Bowers et al, Actuarial Mathematics, 2nd edition, Society of Actuaries 1997.

2. Additional bibliography: 1. N. L. Bowers et al, Actuarial Mathematics, 2nd edition, Society of Actuaries 1997. 2. A. Weron, R. Weron, Inżynieria finansowa, WNT, Warszawa 1998.

Result of average student's workload

Activity	Time (working hours)			
1. Participation in lectures, exercise classes and laboratories.		60		
2. Home work: preparing to classes, work with textbook, consulting with the lecturer.		28		
3. Preparation to the tests.		8		
4. Preparing solutions to laboratory home problems.		22		
5. Preparation to the exam. Examination.		22		
Student's workload				
Source of workload	hours	ECTS		
Total workload	140	4		
Contact hours	64	0		
Practical activities	70	0		