Course title	Mathematical Finance
Institute/Division	Faculty of Computer Science and Mathematics/ Department of Mathematics
Course code	F-2.MF
Erasmus subject code*	11.1
Number of contact hours**	45 lecture hours (45h)
Course duration	1 semester (Fall)
ECTS credits	6
Course description (max 100 words)	The course provides an elementary introduction to Mathematical Finance. Topics include: time value of money. risky assets, portfolio management, Markowitz portfolio optimisation, Capital Asset Pricing Model, elements of stochastic analysis, the change-of-measure technique, hedging, pricing, absence of arbitrage opportunities and the Fundamental Theorem of Asset Pricing. Black-Scholes model will be discussed.
Literature	H. Bingham, R. Kiesel, Risk-Neutral Valuation, Springer-Verlag, London 1998. J. Karatzas, S. E. Shreve, Brownian Motion and Stochastic Calculus, Springer-Verlag, Berlin 1988. M. Capinski, T. Zastawniak, Mathematics for Finance: An Introduction to Financial Engineering, Springer; London 2010
Course type/organization	• Lectures (30h), • Exercises (15h)
Assessment method	Attendance, two tests during the semester, final exam
Prerequisites	Probability, Calculus
Primary target group	Computer Science, Mathematics
Contact person	Margareta Wiciak, e-mail: mwiciak@pk.edu.pl
Remarks	

*please insert one of the following codes:
11.0 Mathematics, Informatics
11.1 Mathematics
11.2 Statistics
11.3 Informatics, Computer Science
11.4 Artificial Intelligence
11.5 Actuarial Science
11.9 Others Mathematics, Informatics

**1 lecture hour=45 minutes