

Principles of Financial Mathematics (ECTS 4)

GENERAL AND SPECIFIC COURSE GOALS

	General course goals	Specific course goals
1.	Students will gain fundamental knowledge in economics and business administration.	<ul style="list-style-type: none"> • Ensure that the mathematical methods and techniques and methods for business analysis in real business environment are adopted so that the students are able to handle real life business situations and are able to participate in decision making • Gaining fundamental theoretical knowledge about financial markets and financial instruments. Students will demonstrate their knowledge through written tests and oral examination and will have a solid background for engaging in individual or group seminar.
2.	New technologies	<ul style="list-style-type: none"> • During seminars students will work on technical implementation of theoretical concepts thought during the lectures. The implementation will be done in Microsoft Excel and Visual Basic for Applications (VBA).

EXPECTED LEARNING RESULTS

Having studied the course materials, students are supposed to:

- understand micro and macro implications in financial intermediation
- differ fundamental physiognomies of financial systems and its repercussions, and repercussions these differences have on each financial instrument
- use different models of simple and compound interest
- understand the time value of money
- define mathematical structure (time distribution of certain financial transactions) of each financial instrument
- differ the principles of valuation of contract and market financial instruments
- understand the mechanism and the economic reasoning in arbitrage on currency markets
- understand the calculation of the cost of the workforce and the usage of long term assets
- understand the structure of fundamental financial reports and its horizontal and vertical analysis
- valuate (a priori and a posterior) success of a perennial investment project and make an optimal choice between several perennial projects presented
- application of software packages in financial mathematics