

## Course Description – Summer 2022

**Title** Investment Portfolio Management

**Faculty** Faculty of Computer Science

**Professor** Robert Chitchyan, Associate Professor, PhD Mathematical Sciences

**ECTS** 5

**Level** Bachelor

### Requirements

Students have to take written project examination.

### Add. Information

**Content** Content: Capital investment  $\mu$  its types. Methodological bases of portfolio investments, economic essence and types. Indicators of functional ratio of securities income. Definitions of covariate moments, correlation coefficient and their properties.  
General principles of covariance calculation. Covariance matrix  $\mu$  its properties. Covariance  $\rho$  Correlation coefficient calculator in MS Excel environment.  
Creating an optimal investment portfolio. Markovitz's minimum risk (maximum return) portfolio - its calculation formula. Calculating the optimal portfolio through SOLVER program in MS Excel environment.  
7. Definition of Tobin's portfolio: Formulation of minimum risk (maximum return) optimization problems.  
8. Calculation of Tobin Optimal Portfolio Securities weights through SOLVER program in MS Excel environment.