UNIVERSITY OF ECONOMICS - VARNA

FACULTY OF INFORMATICS

DEPARTMENT OF STATISTICS AND APPLIED MATHEMATICS

Adopted by the FC (record №8 / 05.03.2020)
Adopted by the DC (record №7 / 17.02.2020)

ACCEPTED BY:
Dean:
(Prof. Vladimir Sulov, PhD)

SYLLABUS

SUBJECT: "RISK MANAGEMENT";

DEGREE PROGRAMME: "International Business", "Business and Management" and "Accounting"; BACHELOR`S DEGREE

YEAR OF STUDY: 2; SEMESTER: 4;

TOTAL STUDENT WORKLOAD: 180 hours; incl. curricular 60 hours

CREDITS: 6

DISTRIBUTION OF STUDENT WORKLOAD ACCORDING TO THE CURRICULUM

TYPE OF STUDY HOURS	**WORKLOAD, hours**	**TEACHING HOURS PER WEEK, hours**
CURRICULAR: incl. • LECTURES • SEMINARS (lab. exercises)	 30 30	 2 2
EXTRACURRICULAR	120	-

Prepared by:

1. **……..…..**
(Prof. Rosen Nikolaev, PhD)
2. **……..…..**
(Assist. Prof. Radan Miryanov, PhD)
3. **……..…**
(Chief Assist. Prof. Yordan Petkov, PhD)

Head of department of Statistics and Applied Mathematics: ……..
(Prof. Rosen Nikolaev, PhD)

I. ANNOTATION

The main aim of the subject „Risk Management" is to present the fundaments of Risk Theory with an accent on the term "risk" all types of risk and ways to manage the latter.

Actually, the subject is focused mainly on the investment risk, ways for its quantitative evaluation and methods for reducing it. Two different approaches for investment risk management are taught in details – diversification by forming investment portfolio and hedging by using financial derivatives.

After completing the course, the students will have the skills to evaluate investment projects, to identify and assess the investment risk, to form optimal portfolio of risk and risk-free assets, to recognise and implement basic hedging instruments.

II. THEMATIC CONTENT

№	TOPICS AND SUBTOPICS	HOURS		
		L	**S**	**LE**
Theme 1. FUNDAMENTS OF RISK MANAGEMENT		**2**	**0**	
1.1.	Definition of risk. Types of risk			
1.2.	Attitude to risk			
1.3.	Risk management – objectives, stages, strategies			
Theme 2. INVESTMENT RISK		**6**	**6**	
2.1.	Investment. Investment environment			
2.2.	Evaluation of investment effectiveness			
2.3.	Income and return on investment			
2.4.	Evaluation the investment risk			
Theme 3. INVESTMENT RISK MANAGEMENT		**2**	**2**	
3.1.	Risk diversification – main points			
3.2.	Nature of risk hedging			
Theme 4. PORTFOLIO THEORY		**6**	**8**	
4.1.	Portfolio of risky assets (Markowitz model). 2-asset portfolio and multi-asset portfolio			
4.2.	Portfolio of risk-free and risky assets (Tobin model)			
4.3.	Capital market line. Effective and optimal portfolios			
4.4.	Capital Asset Pricing Model (CAPM)			
Theme 5. INVESTMENT PORTFOLIO CONSTRUCTION		**6**	**6**	
5.1.	Investment characteristics of ordinary shares			
5.2.	Investment characteristics of bonds			
5.3.	Construction of optimal portfolio of shares, bonds and treasury bills			
Theme 6. PORTFOLIOS ACTIVE MANAGEMENT		**2**	**2**	
6.1.	Sharpe ratio			
6.2.	The Treynor-Black model			
Theme 7. RISK HEDGING		**6**	**6**	
7.1.	Nature and basic types of financial derivatives			
7.2.	Forwards and futures			
7.3.	Swaps			
7.4.	Options			
	Total:	**30**	**30**	

III. FORMS OF CONTROL:

№	TYPE AND FORM OF CONTROL	Number	extracur-ricular, hours
1.	**Midterm control**		
1.1.	Course Project / Term Homework	1	20
1.2.	Tests	2	40
	Total midterm control:	**3**	**60**
2.	**Final term control**		
2.1.	Examination (test)	1	60
	Total final term control:	**1**	**60**
	Total for all types of control:	**4**	**120**

IV. LITERATURE

REQUIRED (BASIC) LITERATURE:

1. Baker, Harold Kent, Greg Filbeck. Investment Risk Management. Oxford University Press, 2015.
2. Wolke, Thomas. Risk Management. Walter de Gruyter GmbH & Co KG, 2017.

RECOMMENDED (ADDITIONAL) LITERATURE:

1. Dochev, D., R. Nikolaev, Y. Petkov. Finansova matematika. Varna: Nauka i ikonomika, 2010.
2. Peterson Steven. Investment Theory and Risk Management. John Wiley & Sons, 2012.
3. Hopkin, Paul. Fundamentals of Risk Management: Understanding, Evaluating and Implementing Effective Risk Management. Kogan Page Limited, 2012.
4. Elton, Edwin J., Stephen J. Brown. Modern Portfolio Theory and Investment Analysis. John Wiley & Sons inc, 2014.
5. Hastings, K.J. Introduction to Financial Mathematics. Chapman and Hall/CRC, 2015.