SUBJECT DATASHEET

DERIVATIVES AND REAL OPTIONS

BMEGT35M122

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name
DERIVATIVES AND REAL OPTIONS

ID (subject code) BMEGT35M122

Type of subject
Contact lessons

Course types and lessons

Type	*Lessons*
Lecture	2
Practice	0
Laboratory	0

Type of assessment
mid-term grade

Number of credits
3

Subject Coordinator

Name	*Position*	*Contact details*
Dr. Andrea Toto	senior lecturer	toto@edu.bme.hu

Educational organisational unit for the subject
Department of Finance

Subject website
https://edu.gtk.bme.hu/

Language of the subject
angol – ENG

Curricular role of the subject, recommended number of terms
Programme: **Finance MSc (in English) from 2019/20/Term 1 AUTUMN start**
Subject Role: **Compulsory elective**
Recommended semester: **4**

Programme: **Finance MSc (in English) from 2019/20/Term 1 SPRING start**
Subject Role: **Compulsory elective**
Recommended semester: **3**

Direct prerequisites

Strong	None
Weak	None
Parallel	None
Exclusion	None

Validity of the Subject Description

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

In the last 40 years, derivatives have become increasingly important in finance and investments. Futures and options are actively traded on many exchanges throughout the world. Many different types of forward contracts, swaps, op-tions, and other derivatives are entered into by financial institutions, fund managers, and corporate treasurers in the over-the counter market. Derivatives are added to bond issues, used in executive compensation plans, embedded in capital investment opportunities, used to transfer risks in mortgages from the original len-ders to investors, and so on. The markets for these versatile instruments have grown enormously and have ge-nerated a profusion of innovative products and ideas, not to mention periodic crises. Derivatives have become one of the most important tools of modern finance, from both the academic and the practical standpoint. Objectives: This course is designed • to introduce Finance students to the theoretical and practical aspects of financial futures, options, and other derivatives. The subject matter requires relatively greater use of quantitative methods and theoreti-cal reasoning than many other business courses, and some students may find it challenging. • to develop own intuition. The main objective of this course is to understand the principles of how these important instruments and markets work, to help students gain the intuition and to provide the ne-cessary skills for pricing and hedging of derivative securities, and for using them for investment, risk management, and prediction purposes. • The agenda partly covers the CFA Program Curriculum Volume 5, Level I-II-III.

Academic results

Knowledge

Skills

1. • define characteristics of options, futures, and other derivatives based on market data;
2. • understand and process market information and special literature relating to the topic;
3. • valuing option, futures and swap contracts,
4. • use different strategies with derivatives,
5. • perform calculations to support decision-making.

Attitude

1. are open to getting to know and adapting derivatives,
2. collaborate with their instructors and others during the learning process,
3. gain knowledge and information,
4. use the possibilities offered by IT tools

Independence and responsibility

1. are open to accept constructive criticism,
2. collaborate with others to solve problems during the learning process,
3. could make responsible investment decisions,
4. understand the importance and weight of responsibility and can assess the consequences of decisions.

Teaching methodology

Lectures, written and oral communication, use of IT tools and techniques, optional tasks alone and in groups.

Materials supporting learning

- Kötelező/ Obligatory:
- Slideshows of the lectures which will be uploaded continuously during the semester.
- Zvi Bodie-Alex Kane-Alan J. Marcus, Investments, 11th Edition, MacGrawHill, 2018
- Ajánlott/Recommended:
- John C. Hull, Options, Futures and Other Derivatives, 9th edition, Pearson, 2015

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

Assessment of the learning outcomes described under 2.2. is based on an end-term exam. The mandatory ho-mework affects the outcome
(35%). Final grade is a weighted average of: mandatory homework (35%) and end-term exam (65%).

Performance assessment methods

A. Detailed description of mid-term performance assessments: Condition for valid exam: The summarizing study performance test's result should reach the 40% mini-mum level at least. Homework can only be validated in the total scores if this condition is fulfilled.- The
complex written assessment of knowledge and skill competencies of the subject is based on one end-term tests during the semester. The tests focus on practical adaptation of the knowledge students gained in the learning process, which does not exclude testing theoretical knowledge. The parts of the learning material for the tests are selected by the lecturer of the subject. Working time for test writing is 90 minutes. B. Detailed description of examination performance assessments: The written final exam test: Duration: 90 minutes The assessment of knowledge and skill competencies of the subject is based on the written final exam test. The tests focuses on the practical adaptation of the knowledge students gained in the learning process, which does not exclude testing the theoretical knowledge. The sections of the learning material for the exam test are selected by the lecturer of the subject.

Percentage of performance assessments, conducted during the study period, within the rating

- **Mandatory homework** : 35
- **Summarizing study performance tests** : 65

Percentage of exam elements within the rating

- **ester-end written exam**: 65

Conditions for obtaining a signature, validity of the signature

Issuing grades

Excellent	>85
Very good	>85
Good	70–85
Satisfactory	60-70
Pass	50-60
Fail	<50

Retake and late completion

There will be one retake test possibility if the first test did not reach the expected 40%.

Coursework required for the completion of the subject

participation on contact lessons	24
mandatory homework	10
preparing for the exam	56
Total	90

Approval and validity of subject requirements

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

Subject includes the topics detailed in the course syllabus to ensure learning outcomes listed under 2.2. can be achieved. Timing of the topics may be affected by calendar or other circumstances in each semester

1 Types of Derivative Instruments and Their Characteristics
2 Options Markets: The Option Contract, Option Strategies, Option-Like Securities
3 Option Valuation
4 Mechanics of Futures Markets
5 Determination of Forward and Futures Prices
6 Futures, Swaps and Risk Management 1: Foreign Exchange Futures, Stock-Index Futures
7 Futures, Swaps and Risk Management 2: Interest Rate Futures, Commodity Futures Pricing
8 Swaps 1: Mechanics of Interest Rate Swaps
9 Swaps 2: Swap Pricing
10 Credit Derivatives Markets and Instruments: CDS, CDO
11 Real Options
12 End-Term Exam

Additional lecturers

Approval and validity of subject requirements