



APPLIES TO ACADEMIC YEAR 2015/2016

FIN 3616 Financial Decision making with Excel

Programme

Bachelor of Finance (3. year), Exchange Program

Responsible for the course

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Department

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Term

According to study plan

ECTS Credits

7,5

Language of instruction

English

Introduction

A central element of the job of any professional in corporate finance, fund management, security analysis, or risk management is the real-world application of financial theories to provide quantitative answers to various problems. As those theories are usually presented in a sterile, simplified environment for pedagogical reasons, it is often not straightforward how they can be implemented in practice. This course aims at showing students how the sometimes abstract models and theories are used to address real-world problems encountered in practice. The practical implementation of the theories and models also facilitates the complete understanding of them. Additionally the students will be benefitted by having created throughout the course a collection of templates that can be readily used later on in practice.

Probably the most widely used tool by financial practitioners is Excel. During the course students will learn how to use this powerful program to apply a series of financial models which the students will likely have encountered in their previous courses. For each concept applied the course will provide a brief overview of the relevant theory or model but focus mostly on the practical side of the implementation. It will explain how these models can be implemented in Excel using its built-in functions, matrix calculation, and programming language (VBA). The course will also highlight which real-world financial data is the appropriate input for those models. It will point out different modeling options and discuss advantages and limitations of those approaches. The content of the course will employ theories that have been taught in previous classes. In various areas, the course will delve deeper and provide students with state of the art models that go beyond what was covered in previous courses. Thus, a good understanding of the material covered in the previous finance courses is required to fully benefit from this course.

Learning outcome

Acquired Knowledge

The students will acquire a good understanding of how different financial models can be efficiently implemented with the help of a spreadsheet program. More specifically the students will develop an understanding of the following topics:

- Application of main concepts/techniques covered so far in the bachelor program
- Which assumptions must be made in order to apply financial theories to solve real-world problems and what are the limitations of these models.
- How to set up a valuation model and obtain the necessary financial information from Bloomberg.
- Applying valuation models for investment decisions.
- Construction of optimal portfolios, how to calculate the necessary input variables and assumptions behind the approaches.
- What are the common problems with the standard portfolio choice approach and how can it be improved?
- Using equilibrium models to calculate the cost of capital.
- Implementing option pricing models.
- Identifying risk, understanding common risk measures, and their limitations.
- Implementing risk management strategies in fund management and corporate hedging with derivative contracts.

Acquired Skills

During the acquisition of the above mentioned knowledge the students will acquire the following skills:

- Advanced Excel handling: functions, optimization with constraints, matrix calculation, VBA
- Working knowledge of Bloomberg: how to find financial data, downloading data from Bloomberg directly and via Excel on large scale.

- Repetition and application of main concepts/techniques covered so far in the bachelor program.
- Portfolio choice and CAPM usage (cost of capital)
- Valuation and corporate finance
- Obtaining the risk-free term structure from market data and bond pricing
- Implementing derivative pricing models
- Risk management
- Numerical simulation techniques such as Monte Carlo and binomial model?

Reflection

The student having successfully completed this course will be able not only to apply the various finance models and theories taught throughout their studies but also understand the applicability of these theories in light of the working assumptions required for those theories to be useful in practice.

Prerequisites

FIN 3521 Corporate Finance or EXC3671 Corporate Finance and FIN 3523 Financial Investment Analysis or EXC 3612 Investment Analysis and EXC 3672 Analyses of Financial Data, or equivalent.

Compulsory reading

Books:

Benninga, Simon. 2014. Financial modeling. 4th ed. MIT Press

Recommended reading

Course outline

1. Introduction to Excel and Bloomberg
2. Valuation and Capital Budgeting
3. Portfolio Choice
4. CAPM and Cost of Capital
5. Interest Rate Modeling and Bond Pricing
6. Derivative Pricing and Risk Management

Computer-based tools

The central program used in this course is Excel. The course will also provide an introduction to Bloomberg, from which the financial data will be obtained.

Learning process and workload

The course will include a combination of lectures and computer workshops. The lectures will focus on the exposition of the relevant theories, the presentation of the Excel and Bloomberg software programs and their various functionalities as well as the exposition of the development and implementation of models. The workshops will be based on hands-on experience of both the implementation of the models and the development of Excel capabilities. One or more lecture and workshop sessions will be spent on Bloomberg with the focus on how to obtain and transfer data to Excel.

The lectures will be plenary sessions whereas for the computer workshops (Bloomberg and Excel workshops) will be divided into different sessions of maximum 40 students. The Bloomberg room has 10 workstations and there will be up to 4 students on each workstation. The Excel workshops will take place in a computer room.

The following is an indication of the time required:

Activity	Hours
Lectures	21
Computer workshops	21
Preparations for lectures and workshops	42
Preparation of class work assignments	84
Preparation for the final exam	32
Total recommended use of time	200

Use of hours

The lectures will be plenary sessions whereas for the computer workshops (Bloomberg and Excel workshops) will be divided into different sections of maximum 40 students. The Bloomberg room has 10 workstations and there will be up to 4 students on each workstation. The Excel workshops will take place in a computer room.

Depending on the number of students registered for the course there will be formed n computer sections. For example if 150 students are registered then there will be 4 sections of around 37 students each.

21 hours – Lectures

21 hours × n – Computer workshops (including Bloomberg)

3 hours – Coordination of learning activities
 $21 \times (1 + n) + 3$ hours – Total

Examination

This is a course with continuous assessment (several exam components) and one final exam code. Each exam component is graded by using points on a scale from 0-100. The components will be weighted together according to the information below in order to calculate the final letter grade for the examination code (course). Students who fail to participate in one/some/all exam elements will get a lower grade or may fail the course.

The final grade in the course will be based on the following components and weightings:

- 50% weekly group projects.
- 50% 3 hour written final exam.

You will find detailed information about the point system and the cut off points with reference to the letter grades on the course site on itslearning. Specific information regarding student evaluation beyond the information given in the course description will be provided in class. This information may be relevant for requirements for term papers or other hand-ins, and/or where class participation can be one for several elements of the overall evaluation.

Examination code(s)

FIN 36161 – Process evaluation, counts 100% towards final grade in FIN 3616 Financial Decision Making with Excel, 7,5 credits.

Examination support materials

Interest tables and BI approved exam calculator. Examination support materials at written examinations are explained under examination information in the student portal @bi. Please note use of calculator and dictionary in the section on support materials (https://at.bi.no/EN/Pages/Exa_Hjelpemidler-til-eksamen.aspx).

Re-sit examination

Re-sit examination is offered at the next scheduled course.

At re-sit it will be required that the entire evaluation process is conducted again, and that students who do not achieve points in one or more exam components will get a lower grade or fail the course. Previously conducted examination components will not be part of the assessment for a new character.

Additional information