Financial Modeling in Excel
Module 2, 2023-2024

Alexander Klyuka

klyuka@mccme.ru
TG: @yadvashem

Course description

The course is dedicated to practical experience for models' implementations in Excel.
Problems collected from real applications used in different industries.

Course requirements, grading, and attendance policies

You need to have a laptop to perform modeling exercise (better English Excel for Windows).
The course grade consists of:

1) 50% – 5 homework assignments (10% each) after week 1 - week 5.
2) 40% – individual project on Kaggle data modeling with presentation in class.
3) 10% – on time milestone bonus (project selection till 6 Nov)

Course contents

1
(Nov 1)   Arrays and data management
1. Shortcuts (excel without mouse), names
2. Data import (from web, file links, databases)
3. Database management (plain lists, relations, storing, editing, navigation)
4. Specification and design of models, useful hints
5. Array formulas (matrix formulas for regression)

2
(Nov 8)   Functions
1. Basic Excel functions (string, vlookup, offset, indirect) in Use
2. Indirect file link. Model version control.
3. Pivots

3
(Nov 15)   VBA
1. Syntaxes, main objects, user defined functions
2. Recorder, debugger
3. Events and objects
4. Popular macros (scenarios, calculation)
5. Macro to collect data from other files

4
(Nov 22)   Data analysis
1. Sensitivity analysis
2. Linear programming problem (solver)
3. Regressions and data analysis

5
(Nov 29)   Data modeling
1. Random variables, stochastic methods
2. Monte-Carlo simulations
3. Bootstrap for amateurs

6 (Dec 6)	Applications
	1. Financial models in Excel developing, application examples
	2. DCF, WACC
	3. Option valuation models, VaR, portfolio valuation
	4. Operation management models

7 (Dec 13)	Student project presentation (5 minutes per student).

Description of course methodology

Main book – Simon Benninga. Financial modeling (free in internet).
Study material and problem sets will be published on Sunday before the lecture.
In classes there will be discussing cases and Q&A session.
Homework should be done till Sunday after the lecture.

Personal projects

November 8. Students should choose the project topic and approve the theme:
- By default - Kaggle dataset
- Other project/datasets – on request, possible only if I approve the topic

December 13. Project presentation will be on.

Additional reading

cpearson.com/Excel/Topic.aspx – first blog I read, deep into problem
http://peltiertech.com/ – on design in Excel
contextures.com/tiptech.html
http://www.planetaexcel.ru/techniques/2/1790/
http://www.excel-vba.ru/chto-umeet-excel/arxivaciyaizvlechenie-iz-arxiva-cherez-vba/

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