

Financial Modeling in Excel

Module 2, 2019-2020

Alexander Klyuka

klyuka@mccme.ru

+7 926 709 4950

Course description

The course is dedicated to practical experience in Excel that is useful for modeling. Focus on data management: architecture, quality, operations, visualization. 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) 10% – commitment on project (topic selection) till November 13.
- 2) 50% – 5 homework assignments (10% each) after week 1 - week 5.
- 3) 40% – individual project on Excel modeling with presentation in class

Course contents

| | |
|-----------------------------|--|
| 1 (Oct 30) | Formulas in Excel <ol style="list-style-type: none">1. Shortcuts (excel without mouse), names2. Specification and design of models, useful hints3. Basic Excel functions (string, vlookup, offset, indirect) in Use4. Array formulas (matrix formulas for regression) |
| 2 (Nov 6) | VBA <ol style="list-style-type: none">1. Syntaxes, main objects, user defined functions2. Recorder, debugger3. Events and objects |
| 3 (Nov 13) | Data management in Excel <ol style="list-style-type: none">1. Data import (from web, file links)2. Database management (plain lists, relations, storing, editing, navigation)3. Pivots4. Indirect file link. Model version control. |
| 4 (Nov 20) | Advanced VBA <ol style="list-style-type: none">1. Main ideas to improve your coding2. Popular macros (scenarios, calculation)3. Macro to collect data from other files |
| 5 (Nov 27) | Data analysis <ol style="list-style-type: none">1. Linear programming problem (solver)2. Sensitivity analysis3. Random variables, stochastic methods, Monte-Carlo simulations4. Bootstrap for amateurs5. Regressions and data analysis |

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

- 7** Student project presentation (5 minutes per student).
(Dec 11)
-

Description of course methodology

Study material and problem sets will be published on Friday 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

Till November 13 students should choose the project topic and comply with lecturer.
Project presentation will be on December 10.

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/>

Academic integrity policy

Cheating, plagiarism, and any other violations of academic ethics at NES are not tolerated.