

# Financial Modeling in Excel

## Module 2, 2017-2018

Alexander Klyuka

[klyuka@mccme.ru](mailto:klyuka@mccme.ru)

### 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) 10% – commitment on project (topic selection) till November 12.
- 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

---

<b>1</b> <b>(Oct 30)</b>	Formulas in Excel <ol style="list-style-type: none"><li>1. Shortcuts (excel without mouse), names</li><li>2. Specification and design of models, useful hints</li><li>3. Basic Excel functions (string, vlookup, offset, indirect) in Use</li><li>4. Array formulas (matrix formulas for regression)</li></ol>
<b>2</b> <b>(Nov 8)</b>	VBA <ol style="list-style-type: none"><li>1. Syntaxes, main objects, user defined functions</li><li>2. Recorder, debugger</li><li>3. Events and objects</li></ol>
<b>3</b> <b>(Nov 13)</b>	Data management in Excel <ol style="list-style-type: none"><li>1. Data import (from web, file links)</li><li>2. Database management (plain lists, relations, storing, editing, navigation)</li><li>3. Pivots</li><li>4. Indirect file link. Model version control.</li></ol>
<b>4</b> <b>(Nov 20)</b>	Advanced VBA <ol style="list-style-type: none"><li>1. Main ideas to improve your coding</li><li>2. Popular macros (scenarios, calculation)</li><li>3. Macro to collect data from other files</li></ol>
<b>5</b> <b>(Nov 27)</b>	Data analysis <ol style="list-style-type: none"><li>1. Linear programming problem (solver)</li><li>2. Sensitivity analysis</li><li>3. Random variables, stochastic methods, Monte-Carlo simulations</li><li>4. Regressions and data analysis</li></ol>

---

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

- 7** Student project presentation (5 minutes per student).  
**(Dec 10)**
- 

### **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 12 students should choose the project topic and comply with lecturer.

Project presentation will be on December 10.

### **Additional reading**

---

[cpearson.com/Excel/Topic.aspx](http://cpearson.com/Excel/Topic.aspx) – first blog I read, deep into problem

<http://peltiertech.com/> – on design in Excel

[contextures.com/tiptech.html](http://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.