

# Financial modeling in Excel

## Module 1, 2019-2020

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### Course description

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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

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Prerequisites: Laptop to perform exercises (better English version of Excel for Windows).

The course grade consists of:

- 1) 10% – commitment on project (topic selection) till September 17.
- 2) 45% – 3 homework assignments (15% each) after week 1 - week 3
- 3) 45% – individual project on Excel modeling with presentation in class

### Course contents

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<b>1</b> <b>(Sep 10)</b> HA#1 till Sep 16	Formulas in Excel <ol style="list-style-type: none"><li>1. Specification and design of models, data preparation, useful hints</li><li>2. Basic Excel functions (names, string, vlookup, offset, indirect) in Use</li><li>3. Array formulas (matrix formulas for regression) and pivots</li><li>4. Indirect file link. Model version control</li></ol>
<b>2</b> <b>(Sep 17)</b> HA#2 till Sep 23	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 popular macros (scenarios, calculation)</li><li>4. Collecting data from other files via macro</li></ol>
<b>3</b> <b>(Oct 01)</b> HA#3 till Oct 07	Tools in Excel <ol style="list-style-type: none"><li>1. Data import (from web, file links, macros)</li><li>2. Database management (relations, storing, editing, navigation)</li><li>3. Linear programming problem (solver), operation management models</li><li>4. Random variables, stochastic methods, Monte-Carlo simulations, VaR</li><li>5. Regressions and data analysis</li></ol>
<b>4</b> <b>(Oct 15)</b>	Student project presentation (3 minutes per student). Additional topics in Financial Modeling

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### Description of course methodology

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“Once any procedure in Excel takes too much time, you do it in a wrong way.”

Study material and problem sets will be published a week before the lecture.

Homework should be done not later than a week after the lecture.

In classes there will be case discussions and answers for your questions you have at work.

### **Personal projects**

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Till September 17 students should choose the project topic and comply with lecturer.  
Project presentation will be on October 15.

### **Additional reading**

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[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**

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