



Tárgytematika

EÖTVÖS LORÁND TUDOMÁNYEGYETEM
TÁTK Közgazdaságtudományi Tanszék
(TÁTK-KOZGAZ-TANSZ)

2019/20/1

Tárgynév: **Informatics for economists**
Tárgykód: **ECBA007**
Tárgyfelelős neve: **Horváth Áron Botond**
Tárgy követelménye: **gyakorlati jegy (5)**
Tárgy heti óraszám: **0/4/0**

Oktatás célja:

The goal of the course is to prepare economists to social data analysis. It gives students a good introduction to the analytical possibilities of Excel, Python and R, and teaches them knowledge and skills to understand data and to present their findings in economics.

Tantárgy tartalma:

Week	Python/R	Excel
09.09-09.13	Python introduction: compilers and interpreters; Python terminal; executing Python files; Jupyter Notebooks; constants and variables	Schedule and policies & pre-test
09.16-09.20	Python: data types; user input; expressions basic formulas and procedures	Basics I. (editing, sort, formula and reference, number formats, aggregate functions & charts)
09.23-09.27	Python: conditional executions; alternative executions; chained and nested conditionals; exception handling (try & except)	Basics II. (formatting, view and page setup & conditional formulas)
09.30-10.04	Python: iterations; infinite and finite loops; while: break, continue; for: true & false; lists (arrays) + 1st Python QUIZ	Conditional aggregate functions & autofilter + 1st Excel QUIZ
10.07-10.11	Python: functions: built-in functions; function definition: store & reuse; arguments & parameters; fruitful & void functions	Pivot table & conditional formatting
10.14-10.18	Python: importing modules; Pandas library: reading and processing data files (CSV, Excel); NumPy library: mathematical operations + 2nd Python QUIZ	Lookup functions (VLOOKUP) + 2nd Excel QUIZ



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10.21-10.25	Python: string operations: indexing: character search, length definition, slicing; loops with strings; logical operations with strings; logical expressions and strings methods	Lookup functions (INDEX & MATCH)
10.28-11.01	<i>cancelled</i> (autumn break)	<i>cancelled</i> (autumn break)
11.04-11.08	Python: collections: lists; dictionaries; tuples and their methods + 3rd Python QUIZ	Advanced filter & database functions + 3rd Excel QUIZ
11.11-11.15	Python: networking; fetching online data files; processing XML format, processing JSON format + 4th Python QUIZ	Advanced filter & database functions
11.18-11.22	R: Introduction to R and RStudio. Basic operations, vectors, basic function calls	<i>cancelled</i> (conference)
11.25-11.29	R: Matrices, lists, data frames, basic commands for data analysis + 1st R QUIZ	Data table & goal seek + 4th Excel QUIZ
12.02-12.06	R: Reading and writing files, further data analysis commands, plotting. Short mention of programming constructs + 2nd R QUIZ	Solver + 5th Excel QUIZ
12.09-12.13	TBA	Solver + 6th Excel QUIZ

Számonkérési és értékelési rendszere:

Attendance

- Attendance of the courses is strongly recommended but not compulsory.

Quizzes

- 6 times at the beginning of the class (both for excel, and Python / R, see schedule), 10-25 minutes long
- Based on the topics of all previous classes (not just the last one)



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Számonkérési és értékelési rendszere:

- At least 5 of the 6 quizzes must be taken
- Can be re-taken only with medical certificate
- Best 5 of 6 taken into account in the final score

Homework

- Given at the end of each class
- Not compulsory but tutors can take it into consideration when calculating the final grade

Grading

- Each quiz is scored between 0 and 10 points
- The final score is calculated from the best 5 of the 6 quizzes (both for Excel and Python / R)
- At least 25 points from both Excel and Python / R are required to pass the course
- Grades:
 - 50-59 points: 2
 - 60-69 points: 3
 - 70-79 points: 4
 - 80+ points: 5

Kötelező irodalom:

R

- [An Introduction to R \(Links to an external site.\)Links to an external site.](#)
- [swirl \(Links to an external site.\)Links to an external site.](#)

Excel

- <https://support.office.com/en-us/excel>
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Kötelező irodalom:

- <https://www.excel-easy.com/>
 - [Michael Alexander: Excel 2019 Bible](#)
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