COURSE SYLLABUS

Programming Tools 2

Instructor:
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Department of Economics
Central European University
Winter 2016
MA-level course
1 Credit 1 (2 ECTS Credits)

Course Description

The course is an introduction to programming using the Python language.

Learning Outcomes

By the end of this course, students will be able to:
- comfortably use the basics of the Python language
- understand the role of abstraction through user-defined functions
- apply their knowledge to carry out data collection from the Internet
- apply principles of code organization and replication to aid their programming-related tasks

Prerequisites

Programming Tools 1 is NOT a prerequisite of the class.

Course Requirements

1. Mini-quizzes at the beginning of each class for self-assessment (0% of the grade)
2. Home project after the end of the class (100% of the grade)

Course Schedule

20th January, 2016: Introduction to Python
- data structures, data containers
- conditional execution: if-else statements, proper indentation
- programming principles, code organization

22th January, 2016. Looping, list comprehensions, file I/O
- for and while loops, list comprehensions
- reading and writing files

26th January, 2016. Functions: import statements and user-defined functions
- built-in functions, functions in modules
- the role of abstraction, user-defined functions: named and unnamed functions

27th January, 2016. Miscellaneous topics
- debugging, error handling
- running code in parallel: the multiprocessing module
- working with strings: the use of regular expressions

29th January, 2016. Useful libraries
- the urllib 2 and the Beautiful Soup modules
- (if time permits) showcase of libraries: Pandas, NetworkX, NumPy, SciPy, Matplotlib