# Corpus Linguistics with Python

## Syllabus

### COURSE DESCRIPTION

In recent years, Python has become the de-facto programming language when dealing with computational linguistics topics from processing text to running state-of-the-art libraries for machine learning. In the first part of this course, we will introduce Python and its basic functionalities through practical exercises. We will then learn how to use Python for tackling specific computational linguistics problems by discussing how to pre-process the data and using some state-of-the-art libraries for NLP, as well as useful techniques for the organisation and representation of larger projects.

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                G219

### COURSE PREREQUISITES

### COURSE REQUIREMENTS

- regular homeworks
- final project

**OUTLINE OF THE COURSE**

| BASICS |
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| • Types of variables, concatenation, strings<br>• Conditional statements (if, else)<br>• Loops (for, while)<br>• Data structures (lists, tuples, sets, dictionaries)<br>• Reading and writing files<br>• Functions |

| ADVANCED TOPICS |
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| • Object oriented programming<br>• Libraries for computational linguistics<br>• Python gaming<br>• Interaction with other software |

| LITERATURE |
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| • Bird, Steven, Ewan Klein and Edward Loper. 2009. Natural Language Processing with Python. O'Reilly.<br>• Dawson, Michael. 2003. Python Programming for the Absolute Beginner. 3rd Edition. Thomson Course Technology.<br>• Lutz, Mark and David Asher. Learning Python. O'Reilly.<br>• McGugan, Will. 2007. Beginning Game Development with Python and Pygame: From Novice to Professional. Apress.<br>• Sweigart, Al. 2012. Making Games with Python & Pygame. http://inventwithpython.com/pygame/<br>• Sweigart, Al. 2019. Automate the boring stuff with Python. https://automatetheboringstuff.com/<br>• Zacharski, Ron. 2004. Python for Linguists. http://www.zacharski.org/python/index.html |