

## University of Luxembourg 2018-2019

### Course ID

*Python for Social Scientists*

#### 1. Course details

Semesters:	1
Credit rating:	1 ECTS will be granted exceptionally and to PhD's of management only
Pre-requisite(s):	No prerequisites needed. A first experience in another programming language is considered an advantage.
Lecturers:	Melanie Andresen M.A.
Administrator: Secretary:	-
Tutors:	
Seminar times and rooms:	BCE 005 / BCE 009
Tutorial times and rooms:	
<b>Communications</b>	<b>It is important that students should regularly read their University e-mails, as important information will normally be communicated this way.</b>
Reading week:	-
Mode of assessment:	In-class exercises & active class participation
Additional work:	
Examination Periods:	-
Course WebPage:	

## 2. Aims and objectives

### Aims

The subject of the course is an introduction to the programming language Python. No prior knowledge is required. Participants learn to translate a practical concern into steps that the computer can work on, thereby assessing automation potential. The participants learn how to write simple scripts that solve text-related tasks. For example, segment text into words and phrases, count and sort words and sentences (alphabetically, by length or frequency), extract specific parts of words (e.g. words between quotation marks) or replace them, etc. At the end of the course, participants will have mastered the basic vocabulary of Python so far that they can independently research on acute problems.

### Learning Objectives

Upon successful completion of this course students will be able to:

- Using the Python-Shell
- Variables and data types (strings, integers and floats)
- Writing and executing Python scripts
- Regular Expressions
- Lists
- Booleans
- Using PyCarm
- Conditions
- Loops
- Reading and writing files
- Dictionaries
- Using Modules (re, os, numpy)
- Debugging
- Defining Functions
- Working with language data (nltk)
- Working with tabular data (pandas)

## 3. Plan of semester

Dates	Room	Time	Seminar Lecture	Topic	Deadlines
Jan 21	BCE 005	10:00 – 13:00h	Lecture		-
Jan 21	BCE 005	14:00 – 17:00h	Lecture		-
Jan 22	BCE 005	10:00 – 13:00h	Lecture		-
Jan 22	BCE 005	14:00 – 17:00h	Lecture		-
Jan 23	BCE 009	10:00 – 13:00h	Lecture		
Jan 23	BCE 009	14:00 – 17:00h	Lecture		

#### 4. Course details (by topics)

DAY 1: Monday, 21 January 2019, 10:00h-13:00h and 14:00h-17:00h

- Python-Shell
- Variables and data types
- Save and execute Python scripts
- Regular Expressions
- Lists
- Booleans

DAY 2: Tuesday, 22 January 2019, 10:00h-13:00h and 14:00h-17:00h

- Using PyCarm
- Conditions
- Loops
- Reading and writing files
- Dictionaries

DAY 3: Wednesday, 23 January 2019, 10:00h-13:00h and 14:00h-17:00h

- Debugging: Where is the error?
- Defining functions
- nltk: Working with language data
- pandas: working with tabular data

#### 5. Further information about assessment

Participants are expected to actively participate in class. They are required to solve practical problems at the end of each day. These exercises are based on what was taught and shown in class.

<b>Examination(s)</b>	In-class exercises & active class participation
Weighting:	100%
Date:	21 – 23 January afternoon
Length:	-
Structure:	Pass or Fail