summerschool UTRECHT

Data Science: Programming with Python (S17)

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Please note that on all days, both during the morning and afternoon session, a short break is scheduled. Coffee, tea and lunch will be provided.

Day	Time	Type	Description	Location
Monday	09:00 -10:30	Lecture + exercise session 1	**Introduction to the course (30 min)** **Unit 1.1 (first part): Getting started with Python: The programming environment, editing and running Python programs, "Hello World!", simple output, sequential execution, comments, literal constants, strings, numbers**	Victor J. Koningsberger building, room Cosmos
	10:45 -12:15	Lecture + exercise session 2	**Unit 1.2 (rest): arithmetic expressions, variables, formatted output, interactive input + Exercises**	
	12:15 – 13:45	Lunch		
	13:45 – 15:15	Lecture + exercise session 3	**Unit 1.3: conditional branching + Exercises**	
	15:30-17:00	Lecture + exercise session 4	**Unit 1.4: loops (while- and for-loops) + Exercises**	
Tuesday	09:00 - 10:30	Lecture + exercise session 1	**Unit 2.1: Functions and modules, the Python standard library, the Python Package Index (PyPI) + Exercises**	Victor J. Koningsberger building, room Cosmos
	10:45-12:15	Lecture + exercise session 2	**Unit 2.2: Data Structures (Lists, Tuples) + Exercises**	
	12:15 – 13:45	Lunch		
	13:45 – 15:15	Group project	Group projects (selection of dataset, formulation of research questions, find Python packages)	
	15:30-17:00	Lecture + exercise session 3	**Unit 2.3: Data Structures (Dictionaries and Sets) + Exercises**	

For information about the (online) Social Programme, please have a look at the Utrecht Summer School website!

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Wednesday	09:00 -10:30	Lecture + exercise session 1	**Unit 3.1: Object-Oriented Programming (functions vs methods-objects) + Exercises**	Victor J. Koningsberger building, room Cosmos
	10:45-12:15	Lecture + exercise session 2	**Unit 3.2: What is a CSV file, Using pandas data frames for working with tabular data + Exercises**	
	12:15 – 13:45	Lunch		
	13:45 – 15:15	Project	Work on group project (start coding, read your file/files, implement functions)	
	15:30 – 16:45	Lecture + exercise session 3	**Unit 3.3: Join two dataframes, group by and correlations of variables + Exercises**	
Thursday	09:00 -10:30	Lecture + exercise session 1	**Unit 4.1: Data visualization with matplotlib + Exercises**	Victor J. Koningsberger building, room Cosmos
	10:45-12:15	Lecture + exercise session 2	**Unit 4.2: Working with date and time + Exercises**	
	12:15 – 13:45	Lunch		
	13:45 – 15:15	Project	Work on group project (further analysis, produce plots, results)	
	15:30 – 17:00	Lecture + exercise session 3	**Unit 4.3: Matrix computations with the numpy package + Exercises**	
Friday	09:00 -10:30	Lecture	**Unit 5.1 Lecture on Error Handling + Exercises**	Victor J. Koningsberger building, room Cosmos
	10:45-12:15	Presentations	**Project presentations (10 min each)**	
	12:15 –13:45	Lunch		
	13:45 – 15:15	Presentations	**Project presentations (10 min each)**	
	15:30 – 17:00	Lecture	**Lecture and wrap up**	

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