



UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA



PHD COURSE  
IN STATISTICS

# Specialist Course | Cycle XXXIV

November, 2018 | Campus S. Caterina

## *Programming with Python*

**Luca Di Gaspero | University of Udine**

Monday	November 5	09.30 – 12.30	Room Cucconi
		13.30 – 15.30	Asid 17
Monday	November 12	09.30 – 12.30	Room Cucconi
		13.30 – 15.30	Asid 17
Monday	November 19	09.30 – 12.30	Room Cucconi
		13.30 – 15.30	Asid 17

### Program

<http://www.stat.unipd.it/fare-ricerca/courses-201819-xxxiv-cycle>

**Attendance is restricted to PhD students**

# PROGRAMMING WITH PYTHON

**Luca Di Gaspero | University of Udine**

The course aims at providing a comprehensive working knowledge to computer programming in Python. After introducing language basics, the course will cover object-oriented and functional programming in Python. Moreover, a number of relevant modules from the Python standard library will be introduced. We will then focus on Python paradigms and best practices to solve frequent tasks. We will investigate how to use Python in different scenarios; from small scripting tasks to medium-scale projects.

The detailed topics that will be covered by the course include:

- Basic data types, control flow, structured data type (tuple, lists, dictionary, strings), functions
- Object Oriented Programming and advanced functions (map, filter, reduce)
- Input/Output (file manipulation, network), Exceptions, modules and packages
- Multi-processing and multithreading
- Data manipulation (pandas, json, xml) and visualization (matplotlib)