Python

Course title – Intitulé du cours	Python
Level / Semester – Niveau /semestre	M2/S1
School – Composante	Ecole d'Economie de Toulouse
Teacher – Enseignant responsable	Raphael SOURTY
Other teacher(s) – Autre(s) enseignant(s)	
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Other teacher(s) – Autre(s) enseignant(s)	
Lecture Hours – Volume Horaire CM	
TA Hours – Volume horaire TD	
TP Hours – Volume horaire TP	12
Course Language – Langue du cours	English
TA and/or TP Language – Langue des TD et/ou TP	

Teaching staff contacts – Coordonnées de l'équipe pédagogique :

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Course Objectives – Objectifs du cours :

The objective of this course is to provide students with the notions to program in Python. This course is an introduction to python.

The following points will be covered in the Python course:

- Python philosophy

- Declaration of variables in python

- Standard types of variables

- Mathematical operators and standard logic operators

- Standard data structures such as lists, tuples and sequences

- Manipulating lists in Python

- String manipulation

- Python dictionaries (mapping types) and mutability

- Conditional operators (if statement)

- Loops (for and while)

- Declaration and use of a function

- Reading and writing text files

- Introduction to the object model, inheritance and class methods

- Exception handling

- Creating and import of modules

- Creation and import of packages

- Introduction to standard python libraries

- Creation of graphics with matplotlib

- Mathematics with numpy

- Handling of dataframes with Pandas.

Prerequisites – Pré requis :

A bit of practice in programming would help.

Practical information about the sessions – Modalités pratiques de gestion du cours :

Laptops are required. Students can participate freely asking questions whenever they want either in French or in English. Students with more than ten minutes late won't be accepted in the course.

Bibliography/references – Bibliographie/références :

The list of material will be available from the Moodle page and regularly updated.

https://www.math.univ-toulouse.fr/~xgendre/ens/m2se/introduction_to_python.pdf

https://mlcourse.ai/articles/topic1-exploratory-data-analysis-with-pandas/

https://github.com/raphaelsty/data-science-tutorials/blob/master/introduction-to-python/Introduction%20to%20Python.ipynb

Distance learning – *Enseignement à distance :*

Distance learning can be provided when necessary by implementing, for example: / En cas de nécessité, un enseignement à distance sera assuré en mobilisant, par exemple :

- Interactive virtual classrooms / Classe en ligne interactive
- Recorded lectures (videos) / Vidéo enregistrée de la présentation du matériel pédagogique

- Remote (online) tutorials (classes) / TP/TD à distance
- Chatrooms / Forums