
INTRODUCTION TO PYTHON (duration: 3 days)

Objective

Content of this 3-days-course are the basic concepts of programming with Python. Participants should then be able to evolve further their knowledge gained in the course.

Knowing Python's language syntax will make it easier for You to write Code-Aster command files. And beyond that, being skilled with the use of Python's interpreter You will be able to debug the commands during a Code-Aster execution. The basics which You have learnt, will allow You to discover the possibilities of the many libraries accessible by Python. The course participants should be able to launch into more challenging tasks such as programming Salome . .

The course consists of lectures and practical exercises.

Prerequisites

Each participant has to bring his own Computer with a Linux OS, with Code-Aster and Salome, and with Python. We will inform you after Your registration which versions should be installed. Be aware that You need a 64 bit OS.

You should have some experience using Linux. Basic knowledge of Code-Aster and the Finite-element-method is commended. An inclination to a systematic and logic way of thinking is helpful.

1st day

Python interpreter way of work (0.5 day)

~~~~~

Insights on informatics, benefits and drawbacks of Python and its use in Code\_Aster, Python's interpreter, Python syntax, functions, memory management

#### Working with built-in datatypes (0.5 day)

~~~~~

Builtins: integer, boolean, float, complex, string, tuple, list, dictionaries.

2nd day

Understanding Python objects (0.5 day)

~~~~~

Dealing with external modules (0.5 day)

---

3rd day

Using Python inside Code\_Aster (0.5 day)

---

Managing errors and exceptions (0.25 or 0.5 day)

---

Extending Python (optional) (0.25 day)

---

Registration: on request at [code-aster@code-aster.de](mailto:code-aster@code-aster.de)  
Location: on request or as a group course ([www.code-aster.de](http://www.code-aster.de))  
Duration: 3 Days  
Language: English or French

Lecturer: André Espaze has been graduated from the French engineering school, Supméca Toulon, and the Danmarks Tekniske Universitet (DTU) with a Master in Wind Turbine Engineering. Since 2007, he contributes to software developments for researchers and engineers doing numerical simulation in mechanics, biology and financial analysis. Specialized in the Python programming language and free software solutions based on Linux, he also programs in C, C++ and Fortran. Andre Espaze has been programming the Aster-Module of SalomeMeca and AsterLibre.