iSkills: Program in Python 3 from scratch

SUMMARY

In this workshop, you'll take your first steps towards programming in the world's most popular language: Python..zero prior knowledge required.

You'll get an insight into how programming languages work and get a chance to test your newfound skills in action by writing Python code to solve some simple real-life tasks, and even program your own game of rock-paper-scissors!

Along the way, you'll learn about Git: the perfect tool to build your own online portfolio and showcase your skills to the world.

GOALS

- Understand the major paradigms of programming.
- Familiarize yourself with the basics of Python.
- Get hands-on with Python and write basic code.
- Work in groups to program a game.
- Understand version control using Git and how to *push* your code to Github.

CONCEPTS AND SKILLS:

Programming

- A high level overview of the art and science of programming: we will briefly touch upon some of the history and explain how programming language work.
- The basic building blocks of a programming language: data types, variables, logical statements and functions.

Python

- Apply the previous concepts in the context of Python3 by learning basic syntax and playing around with lists, dictionaries and functions.
- Learn to code in Python3 by running a custom Jupyter notebook from a browser.

Git

- A hands on demo displaying the use of Git as a tool for version control.
- (*optional*) Creating a Github account and pushing code to make a public repository.

Capstone project

- work in groups to design your own solution to the game of rock, paper, scissors.

METHODOLOGY

Presentation

- the major ideas will be related to students through a slide presentation.

Demos:

- Key concepts will be made tangible through live demos.

Notebooks:

- A custom notebook with Python exercises will be made available to students.

Groupwork

- Students will split up into groups and work on a mini-project using a custom template.

INSTRUCTOR

Louis de Thanhoffer de Volcsey -resume.

- Postdoctoral fellow in Mathematics at UTSC, head of 9 courses in the department to date.
- Ph.D. in Noncommutative Geometry at Uhasselt, 2015.