

Introduction to Research Programming – Introduction: Transcript

Welcome to Introduction to Research Programming with Python. My name is David and I'm a Research Software Developer at UCL.

I'm convinced that this course will help your research, whichever field you are studying or background you have. This course doesn't require any previous programming experience and no scientific background. At the end of the course you will have learnt a set of skills that will help to make your research more sustainable, replicable and shareable - following the principles of Open Science. Beyond your research, this course will also expand your horizons finding other uses to the programming skills you will get.

We are going to use Python in this course, but really, this is an introductory course to Research Programming where Python was the chosen language to use. Most of the concepts you will learn in this course are transferable to other programming languages. The main objective here is to get to know how programming can help your analysis, using the libraries available to be able to produce better research.

The first tool we will encounter is Jupyter Notebooks, an amazing interface where you will be able to write code together with results and prose. Some journals are accepting already submissions in this format as interactive papers. All our material is available in such format, making it easier for you to modify and execute the examples.

We will then proceed to learn about different data types and containers, how to read and write files either locally or in the internet, how to make very nice graphs and how to manipulate multi-dimensional data with very good performance using additional libraries. All that will go with examples and exercises that will be applicable to any research discipline.

Start the course now and whether you are doing it online or in the classroom, I'm sure, that though some parts will be more challenging than others, you will have a lot of fun. Don't forget to use the tools available to ask for help. We will help you. See you in class!!