UPPSALA
UNIVERSITET

Welcome

2018-02-05

Advanced Scientific Programming with Python

Some Facts About This Course

- Course credits: 2 hp
- The teachers:
  - Filipe Maia (filipe.maia@icm.uu.se)

  - Benedikt Daurer (benedikt.daurer@icm.uu.se)

- Course material: http://github.com/uu-python/
- Coding project with short presentations on last day

Why Did We Create This Course?

- Modern research involves a lot of programming
- Many of us use Python, Matlab, … to analyse data
- But, most of us are Researchers, not Programmers
- Software engineers over the years have developed many useful tools
- Most of them are quite simple to use (at least we think that)
- You might not agree with us, but we hope you do after this course
- So, our goal is to introduce you to the most common tools of professional software engineering …
- …and help you become more efficient programmers!

Course Schedule

DAY	TIME	TOPIC	ROOM
Monday, 05.02.	09.15-12.00	**Basics:** An introduction to the UNIX shell, interactive Python and git repositories	E10:1309
	13.15-16.00	**Hands-on exercises**	E10:1309
Tuesday, 06.02.	09.15-12.00	**Best practices I:** Organizing, debugging and profiling of code	C8:305
	13.15-16.00	**Hands-on exercises**	A9:001
Wednesday, 07.02.	09.15-12.00	**High performance computing:** Speed optimization using Numpy, Cython, MPI and GPU acceleration	C8:305
	13.15-16.00	**Hands-on exercises and coding project**	A9:001

Course Schedule

DAY	TIME	TOPIC	ROOM
Thursday, 08.02.	09.15-12.00	**Best practices II:** Testing, documenting and packaging of code	C8:305
	13.15-16.00	**Coding project**	A9:001
Friday, 09.02.	09.15-12.00	**Data containers:** Efficient memory storage using HDF5, Pytables and Pandas	A9:001a
	13.15-16.00	**Coding project**	A9:001

Any Questions?

…Ok Then, We Are Almost Ready To Start!

Just A Few Questions For You...

Just A Few Questions For You…

- Did you all bring your own laptop?
- Are you all connected to power?
- Do you all have Python installed?
- Do you all have git installed?
- Are you all connected to WIFI?
- Have you all found the lecture notes?
- Hint: they are available here:
  - https://github.com/uu-python/day1-basics