

Advanced Methods in Data Analysis

Outline of the course (labs):

1. **Statistics and Data Analysis**
2. **Multivariate Techniques and Machine Learning**
3. **Physics Modeling, Simulation and Monte Carlo Methods**

Will focus on applications in physics (mostly HEP)

LABS: how we will operate it

- Labs is only 45min, so it will be not a time for you to write a code.**
- We will go through content of assignments, present results of analyses and observations, have short oral presentations.**
- It will be also occasion to share with everybody problems, exchange snippets of the code or interesting observations.**

Getting your ETCs for labs

This is not a course of programming, but you will be expected to write programs.

- **Basic choices are: C++/Root or Python + Anaconda libraries.**
- **You can use also R or other Data Science specific programming language/library**

I will not be teaching you programming or helping to debug your code, you are on your own ...

For labs you will be graded with:

- **completed assignments**
- **personalised project**
- **short topical presentations**

Graded will be not (necessarily) quality of a code, but maturity of how you analyse and interpret the data.

To pass the course you need to collect at least **60 scores (max available is **100**).**

Assignments, Projects, Short presentations

PEGAZ system:

This system we will use to collect your assignments/projects/short presentations

- I will be sending you back comments
- **You will see your grades there**

Please don't use email to send me your scripts!