**Objectives**

1. Knowledge
2. Skills

* Git-GitLab:

1. Download latest updated files
2. Use own repository to save and backup projects
3. Submit own project files or changes to somebody’s project
4. Collaborate on group projects

* Python:

1. Pandas & Matplotlib
2. Cartopy & Numpy
3. Scipy & scikit-learn

**Course units**

(General - Technical – Git – Scientific Python – Collaboration)

* Presentation of course objectives (see above) – 10min
* Presentation of theory: - 30min
  + Why is this important, what does it do/what can you do with it?
    - Advantages and disadvantages of framework
* Student pre-course survey – 20min
* Principles from educational research – 15min
  + Teaching and learning transaction according to research
  + Research-based teaching methods used during course
* Installation – PREPARE TUTORIAL GUIDES FOR DIFFERENT PLATFORMS: - 1h15
  + Python
  + Git-client (test different versions)
  + GitLab account
* Scientific Python refresher
  + Jupyter notebooks, with Vår
  + Specific geophysics-oriented exercises
* Use of GFI GitLab platform with right Git commands
  + Download resources
    - Current version (Fork + Pull)
    - Updated version (Pull)
  + Upload resources to personal repository
    - Current version (Push)
    - Updated version (Commit + Push)
  + Submit files to ‘course’ folder
    - Current version (Merge)
    - New version (reply to Issue)
    - Investigate the track changes
  + Collaborate on group projects
    - Little simulations and actual projects
* Geophysics group project
  + General outline
    - Define scope, state goal, provide data and approach
    - Students define roles in project
    - Let students find code (LLM, StackOverflow, etc)
    - Students work together on project and Commit+Push advances
  + Oceanography
    - GEOF105-like project with data from fjord
      * Cartopy + Numpy
  + Meteorology
    - Data from hand-held thermometers (manual dataset creation)
      * Pandas + Matplotlib
    - Data from weather balloon
      * Scipy + Sklearn
    - Use formulae to find cloud-base (LCL)
* Student post-course survey
* Bonus: personal GitHub profile and community

**Daily program**

Tuesday 30/4 17-20

Thursday 2/5 17-20

Monday 6/5 17-20

Tuesday 7/5 17-20

Friday 10/5 17-19