**Learning outcomes:**

* Overview of data science and visualization in the context of human development and social change, e.g. knowledge of how to handle datasets in non-european languages.
* Familiarity with data science tools and their appropriate uses.

**Friday 10-5:**

L1: Course introduction:

* What data science is
* What you won’t learn this weekend (and how to find resources for it)
* What you will learn this weekend
* Data introduction
* Science introduction
* Visualization introduction
* Why we chose python, R and D3

L2: Tool setup:

* Terminal window - what it is, where to find it
* Git and Github - what they are, how to use them socially
* Text editors - what they do, how they can help you
* Data science languages: Python, R - how to install
* Data visualisation languages: javascript, D3 - how to install
* Data visualization tools - Tableau Public, QGIS - setup
* Virtual environments - how to install
* Hosting - where to find, how to set up

L3: The data science process

* Asking good questions
* Finding datasets
* Processing data
* How to use models
* Storytelling

L4: Python

* Style…
* Variables, conditionals, loops
* Arrays
* Methods
* Classes and objects
* Files

**Saturday 10-5:**

L5: Datascience for international development

* Finding datasets
* Web scraping
* Handling languages
* Exploring data
* Maps

L6: the science

* statistics
* models
* verification

L7: R

* Style…
* Variables, conditionals, loops
* Arrays
* Methods
* Classes and objects
* Files

L8: visualisation

* Psychology of vision
* Visualisation types
* User interaction
* Dashboards
* Tools
* First visualisations (Tableau)

**Sunday 10-5:**

L9: Review session

* Issues from Saturday’s lectures
* Issues from Saturday’s coding exercises

L10: D3 and Javascript

* Style…
* Variables, conditionals, loops
* Arrays
* Methods
* Classes and objects
* Files
* Example visualisations - under the hood

L11: Big data

* definitions
* data sources
* techniques
* tools

L12: How to continue your journey

* Where you can go from here
* Open data communities and how to work with them
* Data science communities and how to work with them
* How to specify data visualizations well