# Week 1: Fundamentals of Data Manipulation with Python

In this week you'll get an introduction to the field of data science, review common Python functionality and features which data scientists use, and be introduced to the Coursera Jupyter Notebook for the lectures. All of the course information on grading, prerequisites, and expectations are on the course syllabus, and you can find more information about the Jupyter Notebooks on our Course Resources page.

**Learning Objectives**

* Load, manipulate, and select data using NumPy, as well as understand the fundamental data types in the NumPy ecosystem
* Show the benefits of vectorization with NumPy data
* Apply regular expressions to string data
* Demonstrate, at a high level, how regular expression pattern matching is expressed

## Introduction to the Course

### Python

Why Python

1. It’s easy to learn
   * Now the language of choice for 8 out of 10 top US computer science programs (Philip Guo, CACM)
2. Full-featured
   * Not just a statistics language, but has full capabilities for data acquisition, cleaning, databases, high performance computing, and more
3. Strong Data Science Libraries
   * The SciPy Ecosystem