Statistical Programming with Python

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2020-04-20

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Professors

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Ask me anything

About the course

20 sessions

Syllabus

Introduction, Syllabus & Grading

Session 1

Hardware What's programming? Install Anaconda

Session 2

Arithmetic and Variables

Session 3

Functions and Conditionals

Session 4

Git Version Control

Sessions 5 & 6

Lists & Iteration

Session 7

Dictionaries & Sets

Session 8

Console IO & Files

Sessions 9 & 10

CSV & JSON

Sessions 11 & 12

Group work

Session 13

Intro to pandas

Session 14

Dataframe manipulation

Session 15

Statistics with pandas

Session 16

Exploratory data analysis

Session 17

Data analysis case

Session 18

Individual work

Session 19

Final exam

Session 20

Grading

Area	Percentage
Participation	15%
Group work	25%
Individual work	40%
Final exam	20%

Grading

Honors	top 15%
Excellence	**next 35%**
Proficiency	**next 35%**
Pass	**last 15%**

Scale

Programming languages

Throughout this course we will use Python as our programming language, but there are many more!

Programming languages

Language	Paradigm	Execution	Purpose
Python	imperative	interpreted	general
Java	object oriented	compiled	general
Javascript	imperative	interpreted	general
Haskell	functional	compiled	general
SQL	declarative	interpreted	specific
HTML	declarative	interpreted	specific

Python

Python is one of the most used languages right now. Its applications range from Data Science to Web servers

How do we write code?

Or we can feed these words directly into the programming language console

How do we code?

Using Python console

Algorithms

Data structures

Data structures are collections of values, relationships between them, and operations that can work on them

Readings

If you're interested, here are some recommended readings:

What Is Code:
https://www.bloomberg.com/graphics/2015-paul-ford-what-is-code/

Python for Everybody: https://www.py4e.com

Review