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Coding & the Humanities

Week 1 | Part 1_Module Overview

21/09/2020

Objectives...

- to introduce the fundamental concepts of coding/ programming in general, including basic theoretical and practical structures
- to introduce the programming language of Python 3 by exploring its role in research making
- to teach you the basic syntax and vocabulary of Python 3
- to show you how to use Python modules and third-party libraries to perform tasks relevant to data collection, cleaning, analysis and visualization
- to enable you to write, debug and run a computer program written in Python 3
- to enable you to write code statements in different coding environments with a focus on interactive Python interpreters such as IPython
- to provide you with a critical awareness of the benefits/limitations of using coding to study culture and the human record



Python

Guido van Rossum

<https://blog.dropbox.com/topics/work-culture/-the-mind-at-work--guido-van-rossum-on-how-python-makes-thinking>

Monty Python's
FLYING
CIRCUS



GUIDO VAN ROSSUM

Full Q&A



Why Python?

- Python is easy
- Python is portable
- Python is sustainable
- Python is versatile



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<https://stackoverflow.blog/2017/09/14/python-growing-quickly/>

THE OVERFLOW



Essays, opinions, and advice on the act of computer programming from Stack Overflow.


LatestNewsletterPodcastCompany

Developer Hiring


insightsSEPTEMBER 14, 2017


Why is Python Growing So Quickly?

We recently showed that, based on Stack Overflow question visits, Python has a claim to being the fastest-growing major programming language, and that it has become the most visited tag on Stack Overflow within high-income countries. Why is Python growing so fast? Python is used in a variety of purposes, ranging from web development to...




David Robinson
Data Scientist (former)





The Stack Overflow Podcast | EP244

Dropping knowledge with Drupal's creator, Dries



00:00

16:08

Python


PSF

Docs

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Jobs

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python™

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Tweets by @ThePSF



Python Software Foundation
@ThePSF

If you use and support Python, please consider joining @ThePSF. Basic membership is free. Details can be found here: python.org/psf/membership/

For those who wish to do more, we have classes of membership for those who contribute time, work, and money to the foundation.



PSF Membership FAQ
 The official home of th...
python.org

Python >>> Forums

Forums

If you're looking for a forum in your native language, please check out the local user groups page at the [Python Wiki](#).

- [Python Forum](#) (English)
- [Python-Forum.de](#) (German)
- [/r/learnpython](#) (English)

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Python is used in...

- Web and Internet applications
- Desktop and Android GUIs
- Software development
- Games
- Scientific computing
- System administration applications



This module will NOT ...

- ... turn you into a programmer
- ... a software developer
- ... a web developer



This module will...

- ... teach you the core minimum skills in coding
- ... build confidence to continue learning on your own
- ... teach your transferable skills applicable beyond this module



Themes

- Basic Python data types and structures, along with the functions and methods
- Statistical Modelling with Python's modules Numpy and pandas
- Writing and reading external files
- Importing, manipulating, and querying data
- Visualizing data for illustrative and exploratory purposes
- Scraping web data & mining social media
- Natural Language Processing and chatbots as applications in cultural industry
- Considering where and how our coding activities fit research in the digital humanities

Structure of the Module

- 20 hours (20 credits) x 10 weeks
- Each week:
 - One-hour asynchronous lecture
 - One-hour synchronous webinar
 - Pre-webinar activities
 - Post-webinar homework
- On a few odd weeks:
 - Fill in a questionnaire



Attendance & other practicalities

- Listen to lecture recordings before webinars
- Do pre-webinar preparatory tasks
- Attend webinars
- Do the above in the environment that allows you to focus and perform (e.g. have tools set up before you the start of a webinar; turn off social media)
- Participate actively in webinars
- Do homework even though it's not marked
- Communicate with each other and share your experience
- Get in touch to let me know if you struggle with coding or assessment



See student handbook for general stuff

Assessment

- 10 Homeworks (not graded):
 - coding activities to be submitted as Jupyter Notebook (file with the extension .ipynb)
- 1 Final Assessment (graded):
 - Coding Project (100%) submitted as one Jupyter Notebook (file .ipynb)



Core Reading

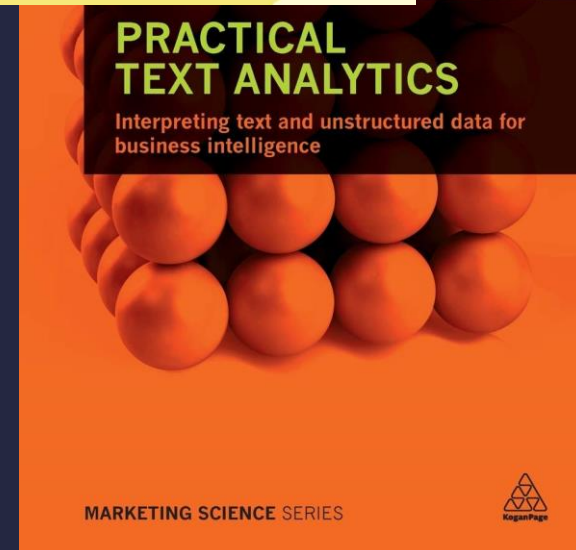
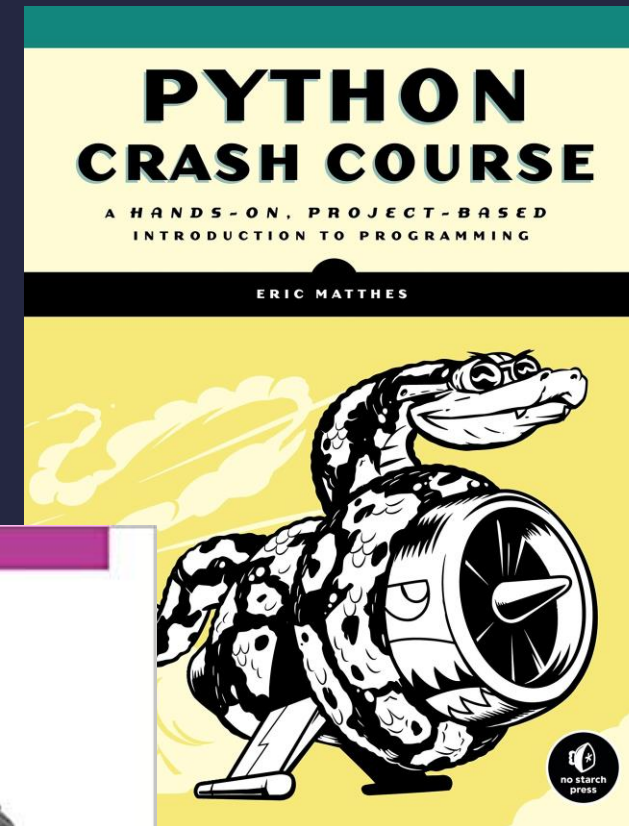
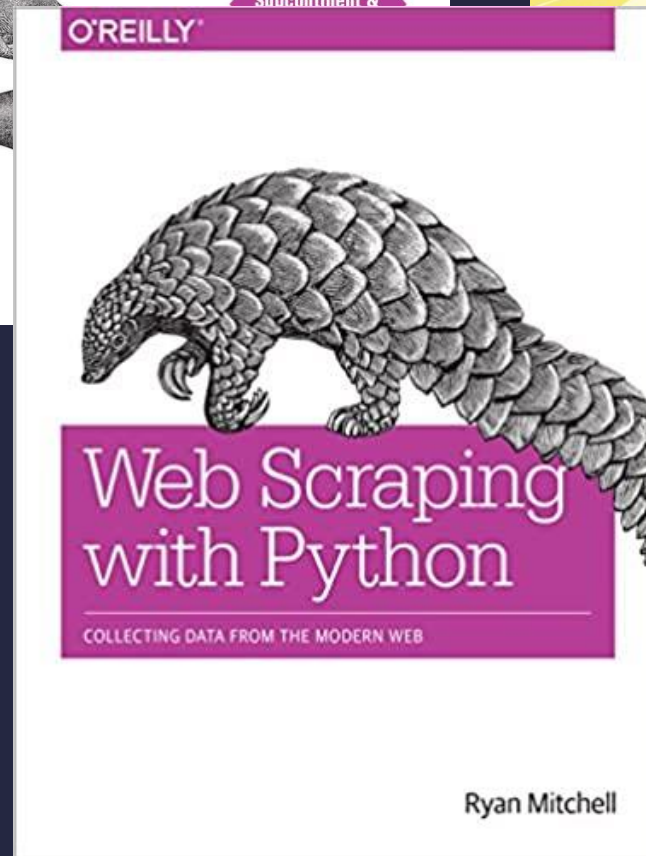
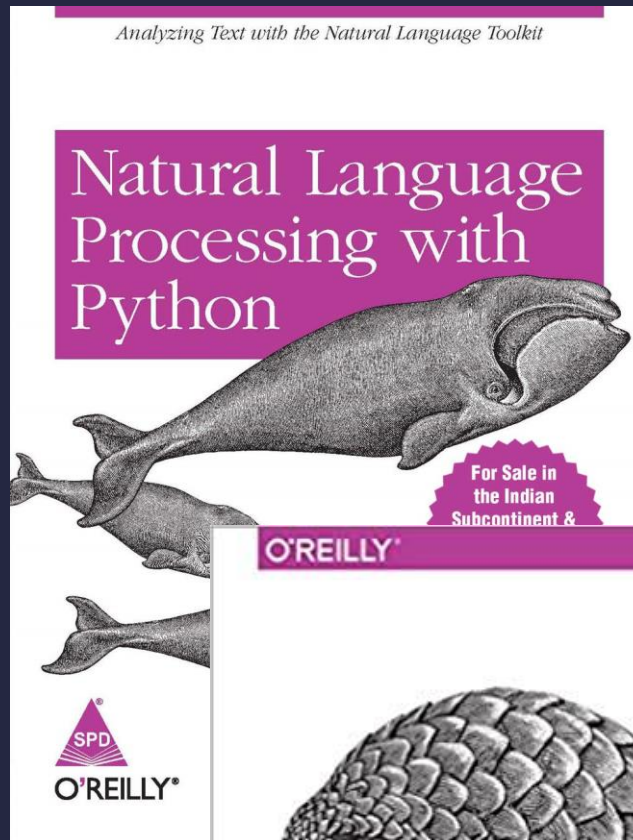


PYTHON FOR EVERYBODY

EXPLORING DATA IN PYTHON 3

This book is designed to teach people to program even if they have no prior experience. This book can be used to teach programming to anyone.

BY **CHARLES SEVERANCE**



Resources

Reading List under “Module Overview” on KEATS

See Resources on KEATS

OUTCOMES

On completing this module, students will:

- understand the fundamental syntax and features of the programming
- be able to identify and analyse a data-analytics problem and select the
- be able to scope, write, run and analyze Jupyter Notebooks and Python
- be able to design research questions with appropriate use of program



Announcements



Reading Lists

RESOURCES

Online Resources

There are a *lot* of materials online for learning Python and you are certainly encouraged to use them. However, most of them are very technical and so can be too advanced or written in a way that is of little for us. Here are some links to online resources that you might find useful.

- **Python for Non-Programmers:** <https://wiki.python.org/moin/BeginnersGuide/NonProgrammers> is a collection of various resources for learning Python, not only in Python.
- **A Byte of Python:** <https://python.swaroopch.com/> is a concise tutorial of basic Python 3 with plenty of examples.
- **The Programming Historian:** <https://programminghistorian.org/lessons/?topic=python> Some of these are fairly advanced (the title suggests) they tend to be very useful for the Humanities contexts since the lessons are organized around some practical projects, you might find some examples useful to model your own research questions and approaches.
- **Project Jupyter:** <https://jupyter.org/> This site contains everything you need to get you started to use Jupyter Notebook and JupyterLab.
- **The core Python 3 Documentation:** <https://docs.python.org/3/tutorial/> This is really aimed at professional programmers but is very useful, and if you are serious about Python then it's essential.
- **The Hitchhiker's Guide to Python.** This free practical handbook will take you from the very first steps of installing Python for novices and Python expert developers.
- **Learn Python the Hard Way:** <https://learnpythonthehardway.org/book/> This is one of many online books for learning Python. It is slow since it breaks down your learning skill by skill.
- **Introductory Deep Learning Tutorial:** <https://github.com/mikekestemont/ghentDL>. AI and Deep Learning generally require a lot of background knowledge we can cover in class, but this tutorial was written for people in the Humanities by Mike Kestemont, a philologist turned data scientist. It includes Jupyter Notebooks and an accompanying slide presentation.