Adopted from Python Programmer

<https://www.youtube.com/watch?v=eTxyviU0Ddo>

PYTHON BASICS

1. Introduction to Python,
2. The Scientific Libraries,
3. Advanced Python Programming and the Pandas Section of Data and Empirics
4. [https://lectures.quantecon.org/py/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Flectures.quantecon.org%2Fpy%2F&event=video_description)
5. Chapters 1 - 4 in this book [https://github.com/jakevdp/PythonData...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fgithub.com%2Fjakevdp%2FPythonDataScienceHandbook%2Fblob%2F8a34a4f653bdbdc01415a94dc20d4e9b97438965%2Fnotebooks%2FIndex.ipynb&event=video_description)
6. Then this Pandas tutorial [https://pandas.pydata.org/pandas-docs...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fpandas.pydata.org%2Fpandas-docs%2Fstable%2Fgetting_started%2F10min.html&event=video_description)
7. Here are some excellent pandas code examples [https://github.com/wesm/pydata-book](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fgithub.com%2Fwesm%2Fpydata-book&event=video_description)

MATHS LINEAR ALGEBRA

1. Essence of Linear Algebra [https://www.youtube.com/watch?v=fNk\_z...](https://www.youtube.com/watch?v=fNk_zzaMoSs&list=PLZHQObOWTQDPD3MizzM2xVFitgF8hE_ab)
2. Khan Academy [https://www.khanacademy.org/math/line...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.khanacademy.org%2Fmath%2Flinear-algebra&event=video_description)
3. [https://betterexplained.com/articles/...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fbetterexplained.com%2Farticles%2Flinear-algebra-guide%2F&event=video_description)
4. Introduction to Methods of Applied Mathematics
5. [http://physics.bgu.ac.il/~gedalin/Tea...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=http%3A%2F%2Fphysics.bgu.ac.il%2F%7Egedalin%2FTeaching%2FMater%2Fam.pdf&event=video_description)
6. Mathematical Tools for Physics
7. [http://www.physics.miami.edu/~nearing...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=http%3A%2F%2Fwww.physics.miami.edu%2F%7Enearing%2Fmathmethods%2Fmathematical_methods-one.pdf&event=video_description) [https://www.math.ubc.ca/~carrell/NB.pdf](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.math.ubc.ca%2F%7Ecarrell%2FNB.pdf&event=video_description)
8. (Linear Algebra Reference) [https://math.byu.edu/~klkuttle/Essent...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fmath.byu.edu%2F%7Eklkuttle%2FEssentialLinearAlgebra.pdf&event=video_description) (Reference)

CALCULUS

1. Essence of Calculus [https://www.youtube.com/watch?v=WUvTy...](https://www.youtube.com/watch?v=WUvTyaaNkzM&list=PLZHQObOWTQDMsr9K-rj53DwVRMYO3t5Yr)
2. [https://www.khanacademy.org/math/calc...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.khanacademy.org%2Fmath%2Fcalculus-1&event=video_description)
3. [https://www.khanacademy.org/math/calc...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.khanacademy.org%2Fmath%2Fcalculus-2&event=video_description)
4. [https://www.khanacademy.org/math/mult...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.khanacademy.org%2Fmath%2Fmultivariable-calculus&event=video_description)

PRACTICE PYTHON PROJECTS

1. [https://github.com/tuvtran/project-ba...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fgithub.com%2Ftuvtran%2Fproject-based-learning%23python&event=video_description) [https://projecteuler.net/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fprojecteuler.net%2F&event=video_description)

MORE PYTHON

1. Work through as many of the examples as you fancy in Chapters 6 and 7 here [https://scipython.com/book/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fscipython.com%2Fbook%2F&event=video_description)
2. DATA EXPLORATION [https://github.com/StephenElston/Expl...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fgithub.com%2FStephenElston%2FExploringDataWithPython%2Fblob%2Fmaster%2FLearningDataVisualization.ipynb&event=video_description)
3. [https://www.kaggle.com/c/titanic#desc...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.kaggle.com%2Fc%2Ftitanic%23description&event=video_description)

PROBABILITY AND STATISTICS

1. [https://www.khanacademy.org/math/stat...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.khanacademy.org%2Fmath%2Fstatistics-probability&event=video_description)
2. [http://greenteapress.com/thinkstats/t...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=http%3A%2F%2Fgreenteapress.com%2Fthinkstats%2Fthinkstats.pdf&event=video_description)
3. [https://bookboon.com/en/applied-stati...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fbookboon.com%2Fen%2Fapplied-statistics-ebook&event=video_description)
4. [http://www.wzchen.com/probability-che...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=http%3A%2F%2Fwww.wzchen.com%2Fprobability-cheatsheet%2F&event=video_description)

STATISTICAL LEARNING

1. An Introduction to Statistical Learning [https://www-bcf.usc.edu/~gareth/ISL/i...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww-bcf.usc.edu%2F%7Egareth%2FISL%2Findex.html&event=video_description) (Essential)
2. [https://work.caltech.edu/telecourse.html](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwork.caltech.edu%2Ftelecourse.html&event=video_description) Elements of Statistical Learning (Extremely useful)
3. [https://web.stanford.edu/~hastie/Elem...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fweb.stanford.edu%2F%7Ehastie%2FElemStatLearn%2F&event=video_description)

PYTHON AND DATA SCIENCE

1. Chapter 5 Python Data Science Handbook
2. [https://github.com/jakevdp/PythonData...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fgithub.com%2Fjakevdp%2FPythonDataScienceHandbook%2Fblob%2F8a34a4f653bdbdc01415a94dc20d4e9b97438965%2Fnotebooks%2FIndex.ipynb&event=video_description)
3. [https://scikit-learn.org/stable/tutor...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fscikit-learn.org%2Fstable%2Ftutorial%2Findex.html&event=video_description)
4. DATA STRUCTURES AND ALGORITHMS IN PYTHON
5. [https://eu.udacity.com/course/data-st...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Feu.udacity.com%2Fcourse%2Fdata-structures-and-algorithms-in-python--ud513&event=video_description)
6. [http://interactivepython.org/runeston...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=http%3A%2F%2Finteractivepython.org%2Frunestone%2Fstatic%2Fpythonds%2Findex.html&event=video_description)
7. TENSORFLOW [https://developers.google.com/machine...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fdevelopers.google.com%2Fmachine-learning%2Fcrash-course%2F&event=video_description)
8. SQL [https://www.khanacademy.org/computing...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.khanacademy.org%2Fcomputing%2Fcomputer-programming%2Fsql&event=video_description)
9. GIT AND VERSION CONTROL [https://git-scm.com/book/en/v2](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fgit-scm.com%2Fbook%2Fen%2Fv2&event=video_description)
10. TAKE THIS CLASS [https://cs109.github.io/2015/index.html](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fcs109.github.io%2F2015%2Findex.html&event=video_description)
11. R [https://www.r-bloggers.com/how-to-lea...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.r-bloggers.com%2Fhow-to-learn-r-2%2F&event=video_description)

SUPPLEMENTARY MATERIAL

1. [https://docs.python.org/3/tutorial/in...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fdocs.python.org%2F3%2Ftutorial%2Findex.html&event=video_description)
2. [https://www.reddit.com/r/Python/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.reddit.com%2Fr%2FPython%2F&event=video_description)
3. [https://www.reddit.com/r/datascience/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.reddit.com%2Fr%2Fdatascience%2F&event=video_description)
4. [https://stackoverflow.com/questions/t...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fstackoverflow.com%2Fquestions%2Ftagged%2Fpython&event=video_description)
5. [https://datascience.stackexchange.com/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fdatascience.stackexchange.com%2F&event=video_description)
6. [https://jupyter.org/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fjupyter.org%2F&event=video_description)
7. How to think like a computer scientist
8. [http://www.openbookproject.net/thinkc...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=http%3A%2F%2Fwww.openbookproject.net%2Fthinkcs%2Fpython%2Fenglish3e%2F&event=video_description)
9. WRITE A BLOG - [https://onextrapixel.com/start-jekyll...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fonextrapixel.com%2Fstart-jekyll-blog-github-pages-free%2F&event=video_description)
10. SLACK GROUPS: [https://kagglenoobs.herokuapp.com/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fkagglenoobs.herokuapp.com%2F&event=video_description)
11. [https://datadiscourse.herokuapp.com/](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fdatadiscourse.herokuapp.com%2F&event=video_description)
12. Looking for a paid course? Data Camp is good for beginners, you can get a 30 day free trial by following this affiliate link [https://www.datacamp.com?tap\_a=5644-d...](https://www.youtube.com/redirect?redir_token=W2HxK6YxZHxvPhlkMZeIjAvVOb18MTU1MDAxNDQwMkAxNTQ5OTI4MDAy&v=eTxyviU0Ddo&q=https%3A%2F%2Fwww.datacamp.com%3Ftap_a%3D5644-dce66f%26tap_s%3D392196-7d3387&event=video_description)