Certificate Program in Python for Computational Finance

Example Study Plan

Remarks:
- the table is just an **example** of how the different topics can be combined into a 12-week structured study program plus practice modules
- week 1 refers to the **starting week of the program**, i.e. to **calendar week 9 from Monday, 25. February 2019**
- it assumes an effort of about **10-15 hours per week** for live sessions, watching videos, reading documentation and self-study; some invest a bit more
- the column **Certificate Program** contains the main elements/videos of the program, found under the same name on the Quant Platform and maybe other trainings (such as Finance with Python Videos)
- the column **Python for Financial Data Science** refers to the materials for respective class
- the column **Tools & Skills** refers to topics related to basic tools and skills needed in software and Python development for finance and algorithmic trading; these topics are important for setting up a proper development environment and efficient development processes
- the column **Reading Material** refers to the written materials & codes found in the *Finance with Python* course and the *Derivatives Analytics with Python* book as well as in the draft version of *Python for Finance, 2nd ed.*
- under **Live Sessions** you find the planned live sessions for the respective week; they will be announced by email invitations (in general in the week before they take place); they cover **selected important topics** or present **new/updated material** not yet available on the Quant Platform
- the column **Optional Resources** lists videos, e.g. from the classes **Python for Databases**, that can be watched learn about additional topics of interest; they might also present topics from a different angle or with different twists
- on the Quant Platform you also find a training class called **Webinars, Talks & Special Topics** – here you find a collection of recordings from recent talks, webinars and workshops that are related to Python for Finance & Algorithmic Trading
- if you have **technical or content questions**, please use the **User Forum** on the Quant Platform
- if you have **organizational questions**, you can send us an email to training@tpq.io

WEEK	Certificate Program	Python for Financial Data Science	Tools & Skills	Reading Material	Live Sessions	Optional Resources
01	Finance with Python 1 Finance with Python 2	Data Types & Structures 01	Tools & Skills 01 (Python Installation, Python Environments)	Finance with Python Chs 1-3 Python for Finance Chs 1-2	Introduction & Overview on 25.02.2019 Q&A Session on 01.03.2019	PyExcel 01 AI in Finance 01
02	Finance with Python 3 Finance with Python 4	Data Types & Structures 02	Tools & Skills 02 (Docker Usage, Jupyter)	Finance with Python Chs 4-6 Python for Finance Ch 3 Derivatives Analytics Ch 1	Q&A Session on 08.03.2019	PyExcel 02 AI in Finance 02
03	Market Based Valuation DX Quick Start	Numerical Computing with NumPy	Tools & Skills 03 (Cloud Usage, Jupyter)	Python for Finance Ch 4 Derivatives Analytics Chs 2-3	DX Analytics 01 on 11.03.2019 CompFin 01 on 13.03.2019	PyExcel 03 AI in Finance 03
04	Complete Market Models DX Frame and Model Simulation	Data Analysis with pandas	-	Python for Finance Ch 5 Derivatives Analytics Ch 5	DX Analytics 02 on 18.03.2019 CompFin 02 on 19.03.2019	PyExcel 04 AI in Finance 04
05	Risk-Neutral Valuation DX European Valuation & Portfolios	Object Oriented Programming	Tools & Skills 04 (Vim Code Editor)	Python for Finance Ch 6 Derivatives Analytics Ch 4	CompFin 03 on 25.03.2019 DX Analytics 03 on 26.03.2019	PYDB 01 AI in Finance 05
06	Fourier Pricing Theory & Apps DX Fourier Pricing	Visualization & Financial Time Series	Tools & Skills 05 (Screen + Vim + q)	Python for Finance Chs 7-8 Derivatives Analytics Ch 6	CompFin 04 on 01.04.2019 DX Analytics 04 on 03.04.2019	PYDB 02 AI in Finance 06
07	American Options DX American Valuation	Input-Output Operations	Tools & Skills 06 (Doctest & Unittest)	Python for Finance Ch 9 Derivatives Analytics Ch 7 & 8	CompFin 05 on 08.04.2019 DX Analytics 05 on 09.04.2019	PYDB 03 AI in Finance 07
08	General Market Model & MCS DX Multi-Risk Derivatives	Performance Python	Tools & Skills 07 (Git Version Control)	Python for Finance Ch 10 Derivatives Analytics Ch 9	CompFin 06 on 15.04.2019 DX Analytics 06 on 16.04.2019	PYDB 04 AI in Finance 08
09	Monte Carlo Simulation	Math Tools & Stochastics	Tools & Skills 08 (Python Packaging)	Python for Finance Chs 11-12 Derivatives Analytics Ch 10	CompFin 07 on 26.04.2019	PYDB 05 AI in Finance 09
10	[REVIEW]	Statistics Dates & Times	Tools & Skills 09 (Documentation)	Python for Finance Ch 13 & App	[Yves @ ODSC Boston]	PYDB 06 AI in Finance 10
11	Calibration DX Implied Vol & Calibration	Machine Learning Basics	Tools & Skills 10 (Code Hosting/Case)	Python for Finance Ch 13 Derivatives Analytics Ch 11	CompFin 08 on 09. May 2019 DX Analytics 07 on 11. May 2019	NLP 01 AI in Finance 11
12	**Valuation & Hedging** **DX Complex Portfolios**	–	–	**Derivatives Analytics Chs 12-13**	**CompFin 09 on 14. May 2019** **DX Analytics 08 on 17. May 2019**	**NLP 02** **AI in Finance 12**

WEEK	Certificate Program	Python for Financial Data Science	Tools & Skills	Reading Material	Live Sessions	Optional Resources
13	Python Derivatives Analytics Practice Module					
14	DX Analytics Practice Module					
15-16	Final Project Preparation					