

no of hours	form	block	scope	syllabus
5	remote	Python Developer - introduction	Basic information about Python, software installation	
35	remote	Python - the basics	<ul style="list-style-type: none"> - introduction to the language - basic data structures - language elements - object - oriented programming - text formatting - file operations - system operations 	
	video + txt	Git system	<ul style="list-style-type: none"> - basic command line commands - GIT support: init, add, commit, branch, merge - remote repositories: clone, push - SourceTree / GitHub Desktop / PyCharm - exercises with GitHub / BitBucket / GitLab 	
7	remote	Python - technology	<ul style="list-style-type: none"> - environment configuration - interpreter - virtualenv - pip - PyCharm 	
14	remote	Software testing and TDD	<ul style="list-style-type: none"> - discussion of testing principles and techniques - TDD - testing libraries 	
35	remote	Python - intermediate	<ul style="list-style-type: none"> - regular expressions, lambda expressions - exceptions - file operations - multithreading - decorators - streams 	
28	remote	Algorithms and data structures	<ul style="list-style-type: none"> - introduction to algorithms - computational complexity - basic data structures - sorting algorithms (e.g. bubble sort, heapsort, quicksort, counting sort) 	

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14	remote	Design patterns and good practices	<ul style="list-style-type: none"> - discussion of the most important GoF patterns - implementation of several selected <ul style="list-style-type: none"> - Python Style Guide - discussion of good practices: clean code, SOLID, GRASP, KISS, DRY, YAGNI, Demeter Law 	
21	remote	SQL databases	<ul style="list-style-type: none"> - relationships - databases and tables; creation and design - data types, indexes, restrictions - SQL language - CRUD - subqueries, join queries (INNER, OUTER, LEFT, RIGHT) - having, group by, order by, limit - (optional) triggers, procedures - transactions - ACID 	
21	remote	Databases - programming	<ul style="list-style-type: none"> - SQL database software - practical exercises - (optional) NoSQL 	
	video + txt	HTTP basics	<ul style="list-style-type: none"> - HTTP, TCP / IP, DNS, URL, URI basics - commands, response codes, headers, redirections - tools: e.g. curl, wget, ping, telnet, ssh, wireshark, http live headers, postman - Request, Response 	
21	remote	HTML, CSS, JavaScript	<ul style="list-style-type: none"> - HTML basics, CSS - JavaScript basics - (optional) reference to JQuery - (optional) reference to Bootstrap 	
42	remote	Backend technologies	<ul style="list-style-type: none"> - introduction to Django <ul style="list-style-type: none"> . administrative panel . forms . sessions and cache . authorization and authentication . security, i18n, configuration and implementation <ul style="list-style-type: none"> - MVC - REST - Flask + Tornado + SQL Alchemy 	
	video + txt	Agile, Scrum	<ul style="list-style-type: none"> - Agile assumptions (Agile Manifesto) - discussion of the Scrum methodology, Kanban - Agile vs Waterfall 	

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42	remote	Final project	<ul style="list-style-type: none"> - web design, e.g. Auction site, Travel agency, Microblogging site, Car rentals, etc. - work in groups of 2-4 people - work in Scrum methodology - practical use of acquired knowledge and skills during the course - at the end of the demo block projects 	
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