

תוכנית הקורס

Course Duration:

24 academic hours

Description

Python is a dynamic programming language that is easy to write and maintain used for writing scripts and large programs. It has an active developer's community and used in small and large companies alike.

In the course we'll learn how to write good python code, making use of all the toolset the language provides. We'll learn about text parsing with Regular Expressions, work with files and write Object Oriented code.

The course includes both lectures and hands-on labs.

תכני הקורס

Day 1

Introduction (1 Hours)

- Why Python
- Who Uses Python
- PyCharm and the command line
- Writing and debugging code
- Common Mistakes and how to avoid them

Python Syntax (3 Hours)

- Hello World script
- Loops
- Conditionals

- Simple Data Types (strings, numbers, booleans)
- Exceptions

Python Data Structures (2 Hours)

- Tuples
- Sets
- Arrays
- Dictionaries (defaultdict, Counter)
- List Comprehension
- Dictionary Comprehension

Functions (2 Hours)

- Writing Functions
- Writing and using Anonymous (lambda) functions
- Scope
- Variadic Functions
- Keyword Arguments
- Splat Operator

Text Processing (4 Hours)

- Regular Expressions - Theory
- Regular Expressions in Python
- Automatic Search & Replace in files
- Reading and Writing CSV files

Files And The Operating System (2 Hours)

- Reading and writing text files
- Running external programs

Classes and Objects (2 Hours)

- Object Oriented Concepts
- Practical uses of Object Oriented
- Defining and using classes
- Methods and instance variables

Exceptions (2 Hours)

- Who Needs Exceptions?
- Handling Python's Exceptions
- Writing our own exception types

Python Project (4 Hours)

- Writing Python Modules
- Loading External Modules
- Recommended Directory Structure
- Testing - writing tests, using mocks

Python GUI with PyQt (2 Hours)

- Python GUI program structure
- Working with Qt Designer
- Creating functionality with signals and slots
- Demo: Building a GUI for a python tool