Course syllabus: Python Essentials 1 (PE1 -- v1.1)

PE1 Module 1 - Introduction to Python and Computer Programming
  Python as a modern, universal and growing programming language;
  Python versions and language development;
  Brief review of tools and environments needed to start programming in Python.

PE1 Module 2 - Data Types, Variables, Basic Input-Output Operations, Basic Operators
  How to write and run the very first Python program;
  Python literals;
  Python operators and expressions;
  Variables – naming and using;
  Basic input/output operations in Python.

PE1 Module 3 - Boolean Values, Conditional Execution, Loops, Lists and List Processing, Logical and Bitwise Operations
  Boolean data type;
  Relational operators in Python;
  Decision-making in Python: if, if-else, if-elif-else;
  Repeating code execution using loops: while and for;
  Logic and bit-wise operations in Python;
  Lists in Python: constructing, indexing, slicing and content manipulation;
  How to sort a list using a bubble-sort algorithm;
  Multidimensional lists and their applications.

PE1 Module 4 - Functions, Tuples, Dictionaries, and Data Processing
  Code structuring and the concept of functions;
  Function invocation and returning a result from a function;
  Name scopes and variable shadowing;
  Tuples – purpose, constructing and using;
  Dictionaries – purpose, constructing and using.

Python Essentials 1 - Summary Test
  PE1 Modules 1-4;
  score 70% or more to unlock Python Essentials 2.

Course syllabus: Python Essentials 2 (PE2 -- v1.1)

PE2 Module 5 - Modules, Packages, string and list methods, and exceptions
        What is module and why do we need it?
        Importing and using modules;
        Review of selected useful Python modules;
        What is a package and how it differs from a module?
        Constructing and using packages;
        Characters, strings and coding standards;
        Strings vs. lists – similarities and differences;
        Lists methods;
        String methods;
        Python's way of handling runtime errors;
        Controlling the flow of errors using try and except;
        The hierarchy of exceptions.

PE2 Module 6 - The Object-Oriented approach: classes, methods, objects, ande the standard objective features, exception handling, and working with files
        Basic concepts of object-oriented programming;
        From procedural to object approach – motivations and benefits;
        Classes, objects, properties and methods;
        Inheritance and polymorphism;
        Exception as an object.
        Generators, iterators and closures;
        Working with file-system, directory tree and files;

Python Essentials 2 - Summary Test
        PE2 Modules 5-6.

Python Essentials - Final Test
        PE1 Modules 1-4;
        PE2 Modules 5-6;
        score 70% or more to be eligible for a 50% discount voucher (PCAP - Certified Associate in Python Programming certification exam).