

uCertify

Course Outline

**Basics of Python Programming for
98-381 and PCAP-31-02**



Lesson



Practice test



Lab

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1. Course Objective

Prepare for the 98-381 and PCAP-31-02 certification exams with the Basics of Python Programming for 98-381 and PCAP-31-02 course and lab. The lab provides a hands-on learning experience in a safe, online environment. The course and lab completely cover the objectives of both the 98-381 and PCAP-31-02 exam objectives and include topics such as Python basics, Data structure, Python modules, errors and exceptions, object oriented programming, Input and Output, Python functions, control flow tools in Python, and more.

2. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

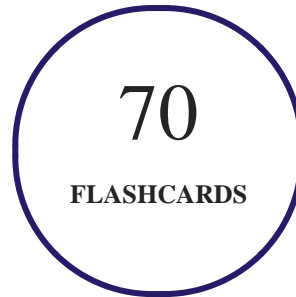
3. Quizzes

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

100
QUIZZES

4. Flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.



5. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.



6. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

7. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

8. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assignments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

9. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- 2014

1. Best Postsecondary Learning Solution

• **2015**

1. Best Education Solution
2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

• **2016**

1. Best Virtual Learning Solution
2. Best Education Cloud-based Solution
3. Best College and Career Readiness Solution
4. Best Corporate / Workforce Learning Solution
5. Best Postsecondary Learning Content Solution
6. Best Postsecondary LMS or Learning Platform
7. Best Learning Relationship Management Solution

• **2017**

1. Best Overall Education Solution
2. Best Student Assessment Solution
3. Best Corporate/Workforce Learning Solution
4. Best Higher Education LMS or Learning Platform

• **2018**

1. Best Higher Education LMS or Learning Platform
2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- 2019
 1. Best Virtual Learning Solution
 2. Best Content Authoring Development or Curation Solution
 3. Best Higher Education Learning Management Solution (LMS)

- 2020
 1. Best College and Career Readiness Solution
 2. Best Cross-Curricular Solution
 3. Best Virtual Learning Solution

10. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Introduction

- About Python

- Python Getting Started

- Running Python

- Basic Syntax
- Lesson Summary

Chapter 2: Python Basics

- Data Types
- Python Operators and Expressions
- Lesson Summary

Chapter 3: The Control Flow Tools in Python

- Decision Making
- Loops
- Lesson Summary

Chapter 4: Data Structures

- Lists
- Tuples
- Sets
- Dictionaries

- Sequences
- Looping Techniques
- Lesson Summary

Chapter 5: Functions in Python

- Functions
- More on Defining Functions
- Intermezzo: Coding Style
- Lesson Summary

Chapter 6: Modules in Python

- Modules
- Detail Study on Modules
- Standard Modules
- The dir() Function
- Packages
- Lesson Summary

Chapter 7: Input and Output

- Input from User
- Output Formatting
- Reading and Writing Files
- Directories in Python
- Lesson Summary

Chapter 8: Errors and Exceptions

- Syntax Errors
- Exceptions
- Defining Clean-Up Actions
- Lesson Summary

Chapter 9: Object Oriented Programming

- Names and Objects
- Scopes and Namespaces
- Classes
- Data Hiding

- Inheritance
- Private Variables
- Odds and Ends
- Iterator and Generator
- Lesson Summary

Chapter 10: What's Next in Python

- More on Python
- Applications of Python
- The Complete Python Program

Chapter 11: Appendix A: Resources/Works Consulted

- Books
- Online Resources

Chapter 12: Appendix B: The Python Standard Library

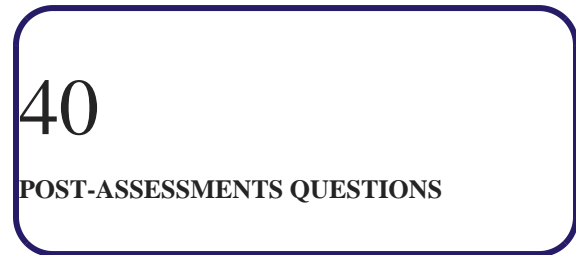
Chapter 13: Appendix C: PCAP and 98-381 Exam Objectives

11. Practice Test

uCertify provides full length practice tests. These tests closely follow the exam objectives and are

designed to simulate real exam conditions. Each course has a number of test sets consisting of hundreds of items to ensure that learners are prepared for the certification exam.

Here's what you get



Features

Full Remediation

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Learn, Test and Review Mode

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

12. Performance Based Labs

uCertify's performance-based labs are simulators that provides virtual environment. Labs deliver hands on experience with minimal risk and thus replace expensive physical labs. uCertify Labs are cloud-based, device-enabled and can be easily integrated with an LMS. Features of uCertify labs:

- Provide hands-on experience in a safe, online environment
- Labs simulate real world, hardware, software & CLI environment
- Flexible and inexpensive alternative to physical Labs
- Comes with well-organized component library for every task
- Highly interactive - learn by doing
- Explanations and remediation available
- Videos on how to perform

Lab Tasks

- Exchanging the numbers
- Converting float data type to integer data type
- Using the len() built-in function
- Evaluating an expression
- Evaluating an equation
- Using the bitwise operator
- Truncating the decimals
- Using the if-elif-else statement - Part 1
- Using the if-elif-else statement - Part 2
- Using the if-else statement
- Checking whether a string is palindrome
- Truncating vowels from a string
- Comparing two variables
- Using the for loop to print a pattern
- Using the break statement
- Using the while statement

- Finding LCM of two numbers
- Sorting words from a string
- Finding elements of a list
- Concatenating tuples
- Modifying a set
- Creating a dictionary
- Finding the cube of a number
- Creating a function
- Creating a function with its default value
- Using an anonymous function
- Using the math module
- Using the datetime module
- Obtaining a year from the date
- Using old string formatting
- Printing the pattern
- Using the format() method
- Retrieving all the files from a folder
- Printing the first line from a file
- Writing the text to a file
- Reading a file
- Performing different operations on file
- Correcting the errors
- Rectifying the errors - Part 1
- Rectifying the errors - Part 2

Here's what you get




13. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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