uCertify

Course Outline

Software Development Fundamentals



22 Mar 2024

1. Pre-Assessment
2. Exercises, Quizzes, Flashcards & Glossary

   Number of Questions
3. Expert Instructor-Led Training
4. ADA Compliant & JAWS Compatible Platform
5. State of the Art Educator Tools
6. Award Winning Learning Platform (LMS)
7. Chapter & Lessons

   Syllabus

   Chapter 1: Introduction to Programming

   Chapter 2: Introduction to Object-Oriented Programming

   Chapter 3: Understanding General Software Development

   Chapter 4: Understanding Web Applications

   Chapter 5: Understanding Desktop Applications

   Chapter 6: Understanding Databases

   Chapter 7: Appendix A: Visual Studio 2019

   Videos and How To
8. Practice Test

   Here's what you get

   Features
9. Live labs

   Lab Tasks

   Here's what you get
10. Post-Assessment

1. 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.

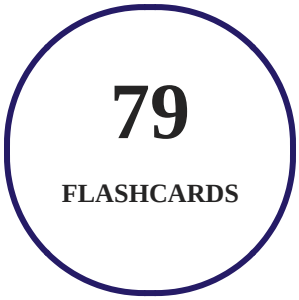
2. Quizzes

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.



3. 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.



4. 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.



5. 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.

6. 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.

7. 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 assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

8. 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

9.  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 to Programming

- Understanding Computer Programming
- Understanding Decision Structures
- Understanding Repetition Structures
- Understanding Exception Handling
- Summary

Chapter 2: Introduction to Object-Oriented Programming

- Understanding Objects
- Understanding Inheritance
- Understanding Polymorphism
- Understanding Encapsulation
- Summary

Chapter 3: Understanding General Software Development

- Understanding Application Lifecycle Management
- Understanding Testing

- Interpret Application Specifications
- Understanding Data Structures
- Understanding Sorting Algorithms
- Summary

Chapter 4: Understanding Web Applications

- Understanding Web Page Development
- Understanding ASP.NET Application Development
- Understanding IIS Web Hosting
- Understanding Web Services Development
- Summary

Chapter 5: Understanding Desktop Applications

- Understanding Windows Forms Applications
- Understanding Console-Based Applications
- Understanding Windows Services
- Summary

Chapter 6: Understanding Databases

- Understanding Database Management System
- Understanding Database Query Methods
- Understanding Stored Procedures
- Understanding Database Connection Methods
- Summary

Chapter 7: Appendix A: Visual Studio 2019

Videos and How To

uCertify course includes videos to help understand concepts. It also includes How Tos that help learners in accomplishing certain tasks.

99	02:06
VIDEOS	HOURS

10. Practice Test

Here's what you get

40	2	40
PRE-ASSESSMENTS QUESTIONS	FULL LENGTH TESTS	POST-ASSESSMENTS QUESTIONS

Features

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.

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.

11.  Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

Lab Tasks

Introduction to Programming

- Using the Ternary Operator
- Using the switch Statement
- Getting Started with Visual Studio
- Using the if-else Statement
- Using the if Statement
- Using the while Loop
- Using the do-while Loop
- Using the for Loop
- Using the foreach Loop
- Using the Recursive Method
- Using Error Handling

Introduction to Object-Oriented Programming

- Using static Delegates
- Using Properties
- Creating an Abstract Class
- Creating an Object
- Creating a Class
- Using Polymorphism
- Using Encapsulation

Understanding General Software Development

- Deleting an Element from an Array
- Searching an Element in an Array
- Using a Queue
- Implementing a Single Linked List
- Inserting Elements into Arrays

- Using Bubble Sort

Understanding Web Applications

- Creating a Link
- Creating an HTML Page
- Using a Cascading Style Sheet
- Creating an ASP.NET Web Form
- Creating a Web Deployment Package
- Creating a Web Service

Understanding Desktop Applications

- Creating a Windows Form
- Creating a Windows Store App
- Using Events
- Finding a List and Configuring a Windows Service

Understanding Databases

- Creating a Table
- Inserting Values into a Table
- Creating an ER diagram
- Updating a Table
- Deleting a Row from a Table
- Retrieving the Data from a Table
- Retrieving Distinct Rows from a Table
- Retrieving the Data Using the AND Operator
- Retrieving the Sorted Data Using the ORDER BY Clause
- Creating a Stored Procedure
- Connecting to a Database

Here's what you get

45	43	01:02
LIVE LABS	VIDEO TUTORIALS	HOURS

12. 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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