Course Ou

Software Engineering fo



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Contents

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

   Chapter 2: Software Engineering From 20,000 Feet

   Chapter 3: Before The Beginning

   Chapter 4: Project Management

   Chapter 5: Requirement Gathering

   Chapter 6: High-Level Design

   Chapter 7: Low-Level Design

   Chapter 8: Development

   Chapter 9: Testing

   Chapter 10: Deployment

   Chapter 11: Metrics

   Chapter 12: Maintenance

   Chapter 13: Predictive Models

   Chapter 14: Iterative Models

   Chapter 15: RAD

   Videos and How To
8. Practice Test

Here's what you get

Features

9. Performance Based 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. 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.

4. 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.

5. 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.

6. 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

7. 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

- What Is Software Engineering?
- Why Is Software Engineering Important?
- Who Should Read This Course?
- Approach
- What This Course Covers (And What It Doesn't)?
- What Tools Do You Need?
- Conventions

Chapter 2: Software Engineering From 20,000 Feet

- Requirements Gathering
- High-Level Design
- Low-Level Design
- Development
- Testing
- Deployment
- Maintenance
- Wrap-Up
- Everything All At Once
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 3: Before The Beginning

- Document Management
- Historical Documents

- E-Mail
- Code
- Code Documentation
- Application Documentation
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 4: Project Management

- Executive Support
- Project Management
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 5: Requirement Gathering

- Requirements Defined
- Requirement Categories
- Gathering Requirements

- Refining Requirements
- Recording Requirements
- Validation and Verification
- Changing Requirements
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 6: High-Level Design

- The Big Picture
- What To Specify
- UML
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 7: Low-Level Design

- OO Design

- Database Design
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 8: Development

- Use the Right Tools
- Selecting Algorithms
- Top-Down Design
- Programming Tips and Tricks
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 9: Testing

- Testing Goals
- Reasons Bugs Never Die
- Levels of Testing
- Testing Techniques

- Testing Habits
- How to fix a Bug
- Estimating number of Bugs
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 10: Deployment

- Scope
- The Plan
- Cutover
- Deployment Tasks
- Deployment Mistakes
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 11: Metrics

- Wrap Party
- Defect Analysis
- Software Metrics
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 12: Maintenance

- Maintenance Costs
- Task Categories
- Task Execution
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 13: Predictive Models

- Model Approaches
- Prerequisites
- Predictive and Adaptive

- Waterfall
- Waterfall with Feedback
- SASHIMI
- Incremental Waterfall
- V-MODEL
- Systems Development Life Cycle
- Summary
- Exercises
- What You Learned In This Lesson

Chapter 14: Iterative Models

- Iterative versus Predictive
- Iterative versus Incremental
- Prototypes
- Spiral
- Unified Process
- Cleanroom
- Summary

- Exercises
- What You Learned In This Lesson

Chapter 15: RAD

- RAD Principles
- James Martin RAD
- Agile
- XP
- Scrum
- Lean
- Crystal
- Feature-Driven Development
- Agile Unified Process
- Disciplined Agile Delivery
- Dynamic Systems Development Method
- Kanban
- Summary
- Exercises

- What You Learned In This Lesson

8. Practice Test

Here's what you get

45	45
PRE-ASSESSMENTS QUESTIONS	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.

9. 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

- Understanding Software Development Project Phases
- Understanding the Steps of Software Development
- Understanding E-mail Subject Tags
- Learning Good Document Management System
- Understanding Duties of Executive Champion and Project Manager
- Understanding Project Management and Executive Support
- Understanding Methods for Recording Requirements
- Learning the FURPS Categories
- Understanding the Types of Architecture
- Understanding the Class Diagram Visibility Symbols
- Understanding Normalization Forms
- Understanding Object-Oriented and Database Design
- Understanding Algorithm Characteristics and Programming Tips
- Understanding the Types of Development Tools
- Understanding the Levels of Testing
- Working with the Testing Techniques
- Learning Deployment Tasks
- Understanding Cutover, Deployment Tasks, and Deployment Mistakes

- Understanding Defect Analysis and Software Metrics
- Understanding Function Point Metrics
- Understanding Categories of Task Maintenance
- Understanding the Types of Maintenance Tasks
- Understanding Types of Predictive Models
- Learning the Features of a Predictive Model
- Understanding Success and Failure Indicators
- Understanding the Unified Process and Prototypes
- Learning the Spiral Model
- Understanding Kanban, Disciplined Agile Delivery, and the Agile Unified Process
- Learning Features of the RAD Model
- Understanding Crystal Methods
- Understanding the Phases of FDD

Here's what you get

31

PERFORMANCE BASED LAB

10. 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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