

# uCertify

## Course Outline

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### CIW: Database Design Specialist



18 May 2020



Lesson



Practice test



Live-Lab

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## 1. Course Objective

Gain hands-on experience to pass the CIW Database Design Specialist 1D0-541 exam with the CIW Database Design Specialist course. The course covers the objectives of the 1D0-541 exam with interactive learning resources. The course provides skills and knowledge on the topics such as transactions and database security; database planning; database design methodology, including logical and physical database design; and relational database fundamentals; and many 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. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

282  
EXERCISES

## 4. 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.



460

QUIZZES

## 5. 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.



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FLASHCARDS

## 6. 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.



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GLOSSARY OF  
TERMS

## 7. 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.

## 8. 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.

## 9. 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.

## 10. 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 5 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

## 11. 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 Databases



- Introduction to Databases
- What Is a Database?
- File-Based Databases
- The Evolution of Databases
- Relational Databases and Database Management Systems (DBMSs)
- Origins of Relational Databases
- Lesson Summary
- Optional Lab

## Chapter 2: Relational Database Fundamentals

- Introduction to Relational Databases
- Multitier Database Architecture
- Relational Model Terminology
- Using Tables to Represent Data
- Characteristics of Relations
- Data Models
- Entities and Data Relationships

- Relational Integrity
- Database Languages
- Data Dictionaries
- Lesson Summary
- Optional Lab

### Chapter 3: Database Planning

- Introduction to Database Planning
- Database Design Life Cycle
- Database Requirements Document
- ProAudio Case Study
- Selecting a DBMS
- Selecting an Application Interface
- Lesson Summary
- Optional Lab

### Chapter 4: Overview of Database Design Methodology

- Introduction to Database Design Methodology
- Effects of Poor Database Design Practices

- Database Design Phases
- Conceptual Database Design
- Entity-Relationship (ER) Models
- Lesson Summary
- Optional Lab

## Chapter 5: Normalization

- Introduction to Normalization
- What Is Normalization?
- Normal Forms
- First Normal Form
- Second Normal Form
- Third Normal Form
- Boyce-Codd Normal Form (BCNF)
- Lesson Summary
- Optional Lab

## Chapter 6: Logical Database Design

- Introduction to Logical Database Design
- Logical Database Design
- Creating a Logical Data Model
- Using a Database Definition Language
- Validating the Logical Data Model
- Defining Integrity Constraints
- Creating an Enterprise Data Model
- Lesson Summary
- Optional Lab

## Chapter 7: Physical Database Design

- Introduction to Physical Database Design
- Physical Database Design
- MySQL Query Browser
- Creating Enterprise Constraints
- Using Secondary Indexes
- Denormalization
- Creating User Views

- Designing Database Access Rules
- Lesson Summary
- Optional Lab

## Chapter 8: Structured Query Language

- Introduction to Structured Query Language
- SQL Basics
- Data Definition Language
- Data Manipulation Language
- Retrieving Data from Relations
- Data Control Language
- Lesson Summary
- Optional Lab

## Chapter 9: Relational Algebra

- Introduction to Relational Algebra
- Defining Relational Algebra
- Selection
- Projection

- Cartesian Product
- Union
- Difference
- Intersection
- Joins
- Lesson Summary
- Optional Lab

## Chapter 10: Transactions and Database Security

- Introduction to Database Transactions and Security
- Transactions
- Concurrency Control
- Database Security
- Lesson Summary

## Chapter 11: Appendix A

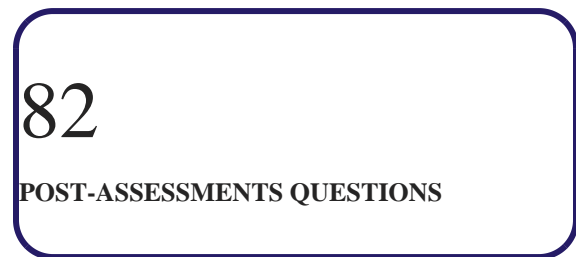
## Chapter 12: Appendix B

## Chapter 13: Appendix C

## 12. 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.

## 13. Live Labs

Live-Lab is a real computer equipment, networked together and conveniently accessible over the internet using virtualization. A live-lab has equipments such as a computer, server, switch or router in it that a user is free to configure.

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 Databases**

**Relational Database Fundamentals**

**Database Planning**

**Overview of Database Design Methodology**

**Normalization**



**Logical Database Design**

**Physical Database Design**

**Structured Query Language**

**Relational Algebra**

**Transactions and Database Security**

**Appendix A**

**Appendix B**

**Appendix C**

**Here's what you get**

## 14. 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.

**Have Any Query? We Are Happy To Help!**

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