uCertify

# Course Outline

## CIW: Database Design Specialist v1.1




27 Mar 2024

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

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

   Syllabus

   Chapter 1: Introduction to Databases

   Chapter 2: Relational Database Fundamentals

   Chapter 3: Database Planning

   Chapter 4: Overview of Database Design Methodology

   Chapter 5: Normalization

   Chapter 6: Logical Database Design

   Chapter 7: Physical Database Design

   Chapter 8: Structured Query Language

   Chapter 9: Relational Algebra

   Chapter 10: Transactions and Database Security

   Videos and How To
9. Practice Test

   Here's what you get

   Features
10. Live labs

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11. Post-Assessment

## 1. Course Objective

Get certified for the CIW Database Design Specialist certification exam with the CIW Database Design Specialist v1.1 course and lab. The lab provides a hands-on learning experience in a safe and online environment. The 1D0-541 study guide covers the certification exam objectives and teaches candidates about relational database fundamentals, relational database design and application, relational algebra and databases, structured query language (SQL), and transactions, currency control, database security, 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.

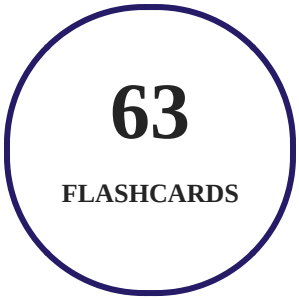
## 3. Quizzes

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.




## 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 assessments. 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 to Databases

- Introduction to Databases
- Data Formats
- 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 Workbench
- 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
- The Division Operation
- Lesson Summary

- Optional Lab

### Chapter 10: Transactions and Database Security

- Introduction to Database Transactions and Security
- Transactions
- Concurrency Control
- Transaction Support in SQL
- Database Security
- Lesson Summary

## Videos and How To

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

| 18 | 01:15 |
| --- | --- |
| VIDEOS | HOURS |

## 11. Practice Test

## Here's what you get

| 50 | 3 | 82 |
|---|---|---|
| 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.

## 12. 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 Databases**

- Using a Flat-File Database

**Relational Database Fundamentals**

- Using MySQL Workbench

**Physical Database Design**

- Creating Base Relations for the ProAudio Database
- Creating Relations and Adding CHECK Constraints
- Creating Views
- Creating Users and Granting Privileges

**Structured Query Language**

- Using the INSERT Statement
- Dropping a Schema
- Creating a Schema
- Using DDL
- Deleting and Updating Records
- Using the IN, BETWEEN, and LIKE Operators
- Retrieving Records from a Database

**Relational Algebra**

- Joining Relations
- Using Relational Algebra

## Here's what you get

| 15 | 15 | 22 |
|---|---|---|
| LIVE LABS | VIDEO TUTORIALS | MINUTES |

## 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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