uCertify

Course Outline

Data Analytics

04 Aug 2025

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: What Can We Do With Data?

   Chapter 3: Descriptive Statistics

   Chapter 4: Descriptive Multivariate Analysis

   Chapter 5: Data Quality and Preprocessing

   Chapter 6: Clustering

   Chapter 7: Frequent Pattern Mining

   Chapter 8: Cheat Sheet and Project on Descriptive Analytics

   Chapter 9: Regression

   Chapter 10: Classification

   Chapter 11: Additional Predictive Methods

   Chapter 12: Advanced Predictive Topics

   Chapter 13: Cheat Sheet and Project on Predictive Analytics

   Chapter 14: Applications for Text, Web and Social Media

   Chapter 15: Appendix A

   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. 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.

246

EXERCISES

3. Quiz

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.

57

QUIZ
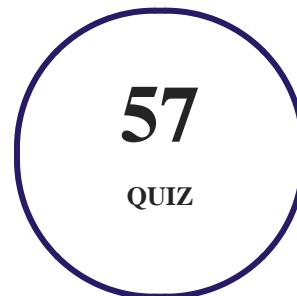
4. ⚡ flashcards

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.

79
FLASHCARDS
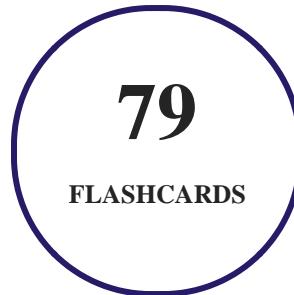
5. 📖 Glossary of terms

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.

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GLOSSARY OF 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

- How this Course is Organized

- Who Should Read this Course

Chapter 2: What Can We Do With Data?

- Big Data and Data Science

- Big Data Architectures

- Small Data

Chapter 8: Cheat Sheet and Project on Descriptive Analytics

- Cheat Sheet of Descriptive Analytics

- Project on Descriptive Analytics

Chapter 9: Regression

- Predictive Performance Estimation

- Finding the Parameters of the Model

- Technique and Model Selection

- Final Remarks

Chapter 10: Classification

- Binary Classification

- Predictive Performance Measures for Classification

- Distance?based Learning Algorithms

- Probabilistic Classification Algorithms

- Final Remarks

Chapter 11: Additional Predictive Methods

- Search?based Algorithms

- Optimization?based Algorithms

- Final Remarks

Chapter 12: Advanced Predictive Topics

- Ensemble Learning

- Algorithm Bias

- Non?binary Classification Tasks

- Advanced Data Preparation Techniques for Prediction

- Description and Prediction with Supervised Interpretable Techniques

Chapter 13: Cheat Sheet and Project on Predictive Analytics

- Cheat Sheet on Predictive Analytics

- Project on Predictive Analytics

Chapter 14: Applications for Text, Web and Social Media

- Working with Texts

- Recommender Systems

- Social Network Analysis

- Business Understanding

- Data Understanding

- Data Preparation

- Modeling

- Evaluation

- Deployment

11. Practice Test

Here's what you get

46 PRE-ASSESSMENTS QUESTIONS	**45** 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

What Can We Do With Data?

- Extracting Knowledge from Data Using the KDD Process

Descriptive Statistics

- Creating a Scatter Plot
- Creating an Area Chart
- Creating a Line Chart

- Creating a Bar Chart
- Creating a Pie Chart
- Creating a Basic Histogram

Descriptive Multivariate Analysis

- Creating a Box Plot
- Creating a Heatmap

Data Quality and Preprocessing

- Detecting Outliers
- Normalizing Data
- Transforming Data for Improved Data Summarization

Clustering

- Performing K-Means Clustering

Frequent Pattern Mining

- Implementing Frequent Itemset Mining Using R
- Implementing the Apriori Algorithm
- Implementing the Eclat Algorithm

Regression

- Performing Simple Linear Regression

Classification

- Implementing the Naive Bayes Algorithm
- Performing Logistic Regression

Additional Predictive Methods

- Performing Multivariate Adaptive Regression Splines

- Implementing SVM for Regression

Advanced Predictive Topics

- Implementing the AdaBoost Method
- Performing One-Class Classification

Here's what you get

23	23	01:15
LIVE LABS	**VIDEO TUTORIALS**	**HOURS**

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.

You can't stay away! Get
~~in touch with our team to~~

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