uCertify

Course Outline

Data Science Labs

30 Jun 2024

1. Course Objective

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: Pandas

   Chapter 2: NumPy

   Chapter 3: Visualization Libraries

   Chapter 4: Extracting, Transforming, and Loading Data

   Chapter 5: Developing Regression Models

   Chapter 6: Logistic Regression

   Chapter 7: Exploratory Data Analysis

   Videos and How To

8. Live labs

   Lab Tasks

   Here's what you get

1. 📖 Course Objective

Immerse yourself in the world of data science with the Data Science Labs course. Through interactive lessons and hands-on labs, you'll gain practical experience in performing various data science tasks, including creating and manipulating DataFrames using Pandas, working with NumPy arrays, and exploring essential third-party libraries. Get ready to dive into real-world data challenges and develop the skills needed to excel in the dynamic field of data science.

2. 👤 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.

3. ⊗ 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.

4. 🛠 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.

5. 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

6. 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: Pandas

- About DataFrames

- Creating DataFrames

- Interacting with DataFrame Data

- Manipulating DataFrames

- Manipulating Data

- Interactive Display

- Summary

Chapter 2: NumPy

- Installing and Importing NumPy

- Creating Arrays

- Indexing and Slicing

- Element-by-Element Operations

- Filtering Values

- Views Versus Copies

- Some Array Methods

- Broadcasting

Chapter 7: Exploratory Data Analysis

- Hypothesis Testing Versus Exploratory Data Analysis

- Getting to Know The Data Set

- Exploring Categorical Variables

- Exploring Numeric Variables

- Exploring Multivariate Relationships

- Selecting Interesting Subsets of the Data for Further Investigation

- Using EDA to Uncover Anomalous Fields

- Binning Based on Predictive Value

- Deriving New Variables: Flag Variables

- Deriving New Variables: Numerical Variables

- Using EDA to Investigate Correlated Predictor Variables

- Summary of Our EDA

7. 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

Pandas

- Creating a Series from a List Using pandas
- Creating a Series from a Dictionary Using pandas
- Using the read_csv() Function

NumPy

- Creating a One-Dimensional Array Using numpy
- Creating a Multi-Dimensional Array Using numpy

Visualization Libraries

- Creating a Bar Plot Using matplotlib
- Creating a Line Plot Using matplotlib
- Creating a Scatter Plot Using matplotlib
- Creating a Pie Chart Using matplotlib
- Creating a Confusion Matrix
- Creating a Line Plot Using seaborn
- Adding Animation to a Choropleth Map Using Plotly Express
- Creating Different Shapes Using bokeh
- Creating a Linked Scatter Plot Using altair

Extracting, Transforming, and Loading Data

- Performing Data Cleaning
- Handling the Missing Values

Developing Regression Models

- Performing Linear Regression on the Salary Dataset

Logistic Regression

- Performing Logistic Regression

Exploratory Data Analysis

- Analyzing Students' Performance
- Performing Data Analysis on Movies and TV Shows on Netflix
- Performing Data Analysis on Movies and TV Shows on Amazon Prime
- Comparing Movies and TV Shows Data on Amazon Prime and Netflix
- Performing Data Analysis on Google Play Store Data
- Performing Data Analysis on Video Game Sales Data
- Performing Exploratory Data Analysis

Here's what you get

25	**25**	**30**
LIVE LABS	**VIDEO TUTORIALS**	**MINUTES**

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