uCertify

Course Outline

Business Statistics for Beginners

11 May 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: Introduction

   Chapter 2: The Art and Science of Business Statistics

   Chapter 3: Pictures Tell the Story: Graphical Representations of Data

   Chapter 4: Finding a Happy Medium: Identifying the Center of a Data Set

   Chapter 5: Searching High and Low: Measuring Variation in a Data Set

   Chapter 6: Measuring How Data Sets Are Related to Each Other

   Chapter 7: Probability Theory: Measuring the Likelihood of Events

   Chapter 8: Probability Distributions and Random Variables

   Chapter 9: The Binomial, Geometric, and Poisson Distributions

   Chapter 10: The Uniform and Normal Distributions: So Many Possibilities!

   Chapter 11: Sampling Techniques and Distributions

   Chapter 12: Confidence Intervals and the Student's t-Distribution

   Chapter 13: Testing Hypotheses about the Population Mean

   Chapter 14: Testing Hypotheses about Multiple Population Means

   Chapter 15: Testing Hypotheses about the Population Mean

   Chapter 16: Simple Regression Analysis

   Chapter 17: Multiple Regression Analysis: Two or More Independent Variables

   Chapter 18: Forecasting Techniques: Looking into the Future

   Chapter 19: Ten Common Errors That Arise in Statistical Analysis

1. 📘 Course Objective

The Business Statistics for Beginners course is designed to empower individuals new to statistical analysis and eager to unlock the potential of data in the business realm. In this course, we've carefully organized the material to help you learn the basic skills you need to use statistical insights effectively in a business setting. The course covers key areas that form the backbone of business statistics. From fundamental concepts to hands-on practice and real-world applications, this course equips you with the tools to turn raw data into actionable insights.

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.

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EXERCISES

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.

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QUIZZES

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.

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FLASHCARDS
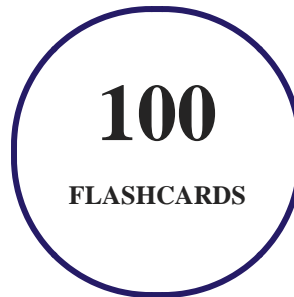
5. 📖 Glossary of terms

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

- About This Course

- Foolish Assumptions

- Icons Used in This Course

- Where to Go from Here

Chapter 2: The Art and Science of Business Statistics

- Representing the Key Properties of Data

- Using ANOVA to Test Hypotheses

Chapter 15: Testing Hypotheses about the Population Mean

- Staying Positive with the Chi-Square Distribution

- Testing Hypotheses about the Population Variance

- Practicing the Goodness of Fit Tests

- Testing Hypotheses about the Equality of Two Population Variances

Chapter 16: Simple Regression Analysis

- The Fundamental Assumption: Variables Have a Linear Relationship

- Defining the Population Regression Equation

- Estimating the Population Regression Equation

- Testing the Estimated Regression Equation

- Using Statistical Software

- Assumptions of Simple Linear Regression

Chapter 17: Multiple Regression Analysis: Two or More Independent Variables

- The Fundamental Assumption: Variables Have a Linear Relationship

- Estimating a Multiple Regression Equation

- Checking for Multicollinearity

Chapter 18: Forecasting Techniques: Looking into the Future

- Defining a Time Series

- Modeling a Time Series with Regression Analysis

- Forecasting a Time Series

- Changing with the Seasons: Seasonal Variation

- Implementing Smoothing Techniques

- Comparing the Forecasts of Different Models

Chapter 19: Ten Common Errors That Arise in Statistical Analysis

- Designing Misleading Graphs

- Drawing the Wrong Conclusion from a Confidence Interval

- Misinterpreting the Results of a Hypothesis Test

- Placing Too Much Confidence in the Coefficient of Determination (R^2)

- Assuming Normality

- Thinking Correlation Implies Causality

- Drawing Conclusions from a Regression Equation when the Data do not Follow the Assumptions

- Including Correlated Variables in a Multiple Regression Equation

- Placing Too Much Confidence in Forecasts

- Using the Wrong Distribution

Chapter 20: Ten Key Categories of Formulas for Business Statistics

- Summary Measures of a Population or a Sample

- Probability

- Discrete Probability Distributions

- Continuous Probability Distributions

- Sampling Distributions

- Confidence Intervals for the Population Mean

- Testing Hypotheses about Population Means

- Testing Hypotheses about Population Variances

- Using Regression Analysis

- Forecasting Techniques

11. 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 the Daily Step Counts of Your Club Members
- Keeping Track of Visitors on a Personal Blog
- Assessing the Level of Student Participation in Various Extracurricular Activities
- Conducting a Survey
- Visualizing the Temperature Fluctuations
- Visualizing Exam Grades Distribution
- Calculating the Relative Frequency
- Figuring the Class Width
- Calculating the Cumulative Frequency
- Illustrating a Cumulative Frequency
- Illustrating a Relative Frequency
- Illustrating a Frequency Distribution
- Representing Fluctuations of Gold Price
- Calculating the Arithmetic Mean
- Calculating the Weighted Geometric Mean
- Calculating the Weighted Arithmetic Mean
- Representing Positively Skewed Data Set
- Representing Negatively Skewed Data Set
- Representing Symmetrical Data Set

- Discovering the Mode
- Calculating Percentiles
- Finding Quartiles
- Finding Coefficient of Variation
- Calculating the Sample Covariance
- Performing Set Operations
- Looking at Types of Probabilities
- Finding Unconditional Probabilities
- Finding the Conditional Probability
- Calculating the Multiplication Rule
- Calculating the Complement Rule
- Calculating the Probability Distribution
- Calculating the Expected Value
- Calculating the Binomial Probability
- Representing the Binomial Distribution
- Calculating Geometric Probabilities
- Computing Poisson Probabilities
- Representing the Discrete Distribution
- Uniform Distribution: Computing Variance and Standard Deviation
- Calculating the Expected Value
- Computing Uniform Probabilities with Formulas
- Portraying Sampling Distributions Graphically
- Calculating the Moments a Sampling Distribution
- Converting Random Variable into a Standard Normal Random Variable
- Graphing the t-distribution
- Calculating the Variance of a t-distribution
- Graphing the Standard Normal Distribution
- Determining the Two-Tailed Hypothesis Test
- Determining the Test Statistic
- Calculating the Error Sum of Squares (SSE)
- Testing Hypotheses about the Population Variance
- Calculating the Slope of a Line from Two Given Points
- Calculating Coefficients and Predicting Sales Revenue in Simple Linear Regression
- Calculating Total Sum of Squares (TSS)
- Visualizing the Test Statistics
- Analyzing User Growth Trends

Here's what you get

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**PERFORMANCE BASED
LAB**

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