Data Analyst

Certification Exam: 1DO-622

Data Analyst is the seventh course in the CIW Web And Mobile Design series. This course teaches how to use data to analyze all aspects of a company's operation and make appropriate business decisions. It focuses on Web-oriented data, and methods for analyzing data in order to create appropriate dashboards, reports and solutions.

This course teaches students how to identify typical sources of institutional knowledge, including Customer Relationship Management (CRM) applications, inventory management systems, transaction data, social media, marketing sources, industry systems. Students will compare and contrast structured and unstructured data in order to summarize how data can drive business decisions. The course also covers specific tactics for working with cloud-based data, including cloud-native data, migrating data to or from the cloud, backup procedures, security issues, and user training.

Students will learn ways to determine relationships between organizational efforts and business outcomes, extrapolate information using data obtained from new and traditional data sources, and ways to analyze and represent data. Students will also learn how ethics and security are vital parts of a Data Analyst's responsibilities. The Data Analyst can compile the data from many sources, prepare and deliver an objective and unbiased presentation.

Candidate Profile

Individuals preparing to enter or continue in the workforce fields of website development and design can benefit from the CIW Data Analyst course and/or certification:

- High school students
- College students
- Technical/trade school students

Professionals working in marketing, merchandising, and data-driven fields for any industry can benefit from the CIW Data Analyst course and/or certification:

- Data Analysis professionals
- Product Development professionals
- Merchandising professionals
- Web marketing professionals
- Advertising professionals
- Entrepreneurs

Career Profile

This course aligns with the Department of Labor Standard Occupational Classification for the following:

SOC: 15-2051 Data Scientists
Data Scientists collect, analyze, and interpret large amounts of data to help organizations make better decisions. They use statistical methods, programming tools, and data visualization techniques to identify patterns, trends, and insights from complex datasets.

SOC: 15-2031 Operations Research Analysts
Operations Research Analysts use data analysis and mathematical models to help organizations solve complex problems and make better decisions. They analyze information, evaluate possible solutions, and recommend strategies that improve efficiency, reduce costs, or increase performance.

Topics

Fundamentals of Data Analysis

The Importance of Good Data
Data Filtering
Data Structure Types
Centralized Data Benefits
Structured vs. Unstructured Data
Case Study: Forgetting Steve Jobs
Types of Data
- Administrative Data
- Open Data
- Public Data
- Research Data

Typical Sources of Business Data
- Marketing data on customers
- Sales data
- Customer data
- Accounting Data
- Traditional e-commerce sites
- Social Media
- Mobile Platforms

Data Protection Policies
Challenges associated with the GDPR Data Protection and Privacy Laws
Search Engine Optimization
- Strategies to Increase Popularity and Relevance

Data Life Cycle Management (DLM)
Data Analysis Process
Case Study: Business Decisions in the Non-profit Industry

Introduction to Big Data

Big Data
The Importance of IT Data Management
IT Business Environments
Cloud-Based Data
Cloud-Native Data
In-House Data
When to Migrate In-House Data to the Cloud
Variations of Cloud-Based Systems
Typical Databases Used for Data Analysis
Data-driven Business Decisions
Case Study: The Internet is Worthless
Impact of Data Errors
Importance of Organizational Strategy and Data Quality in Data Analytics
Data Modeling
Importance of Data Maintenance and Data Backup

Working with Data Sources

Data E-Harmony: Working with Different Departments to Bring Data Together
The Purpose of Customer Relationship Management (CRM)
CRM Integration: A Banking Scenario
Need for CRM in a Retail Bank
- Components of the CRM System

Obtaining Data from E-Mail and User Forums
Obtaining Data from Other Knowledge Bases
Social Media and CRM
- Supply Chain Management
- Inventory Management System
- Facilities Management System

Obtaining Data from CRM and Business-To-Business Frameworks
- Introduction to B2B Frameworks
- Sources of CRM and B2B Data

Transaction, Payment and Inventory Data
Using Multiple Data Sources
Case Study: InStyle Publishing

Tools for Capturing and Analyzing Data

Data Analytics Tools
Capturing Data: Tableau Public
- Graphs and Charts in Tableau Public
- Other Types of Graphs
- Types of Calculations

Capturing Data: Google BigQuery
Capturing Data: OpenRefine
- Get Started with OpenRefine

Overview: Hadoop-Based Environments
- What is Hadoop?
- Postgres

Capturing and Analyzing Data in Hadoop
The R Project
- R as a Programming Language
- Explore Datasets and Create Graphical Displays

Additional Software for Data Capture
- Gartner's Magic Quadrant

Case Study: Playing with Big Data

Analyzing and Reporting Data

Network Traffic
- Web logs
- Marketing

Data Integration
- Why Data Integration is Important?

Why Testing is Important?
- ETL Testing

Statistical Computing and Programming
Organizational Efforts and Business Outcomes
Best Methods to Capture and Report Specific Data
Data Analysis and Reporting
- Dashboards
- Executive Summaries

Create Reports and Charts
Create a Presentation for Reporting Data
Frequently Asked Questions for Presentations
Case Study: Better Business Through Data

