

**CERTNEXUS<sup>®</sup>**

# Data Science for Business Professionals™ (DSZ-210) Exam Blueprint

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*Approved by: Pam Taylor*



**DSBIZ<sup>✓</sup>**

## Introduction to CertNexus

CertNexus is a vendor-neutral certification body, providing emerging technology certifications and micro-credentials for business, data, developer, IT, and security professionals. CertNexus' mission is to assist closing the emerging tech global skills gap while providing individuals with a path towards rewarding careers in Cybersecurity, Data Science, Data Ethics, Internet of Things, and Artificial Intelligence (AI)/ Machine Learning (ML).

We rely on our Subject Matter Experts (SMEs) to provide their industry expertise and help us develop these credentials by participating in a Job Task Analysis, Exam Item Development, and determining the Cut Score. We also depend upon practitioners in the field to participate in a survey of the Job Task Analysis and beta testing to ensure that our certifications validate knowledge and skills relevant to the industry.

## Acknowledgements

CertNexus was honored to have the following Subject Matter Experts contribute to the development of this exam blueprint.

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# CertNexus Data Science for Business Professionals™ (DSBIZ) Exam DSZ-210

## Exam Information

The ability to identify and respond to changing trends is a hallmark of any successful business. Whether these trends are related to customers and sales or to regulatory and industry standards, businesses are wise to keep track of the variables that can affect their bottom lines. In today's business landscape, data comes from numerous sources and in diverse forms. By leveraging data science concepts and technologies, businesses can transform that raw data into information that facilitates making decisions that improve and expand the businesses' success.

## Candidate Eligibility

The DSBIZ assessment requires no application fee, supporting documentation, or other eligibility verification measures for you to be eligible to take it. Simply purchase an access key for the *DSBIZ™ (Exam DSZ-210)* course from the CertNexus Store [here](#). This course includes access to the credential process directly through the CHOICE platform.

## Exam Prerequisites

Successful candidates should have a fundamental knowledge of business processes, general business concepts, and relevant data that helps to solve business problems or achieve business goals. They should also have awareness of use cases for data science and the implications of data science. It is recommended that candidates acquire domain knowledge by attending the CertNexus® *DSBIZ™ (Exam DSZ-210)* course prior to taking the assessment.

## Exam Specifications

**Number of Items:** 25

**Passing Score:** 80% or 20/25 Items

**Duration:** Estimated 20-45 minutes, candidates may retake as many times as desired.

**Exam Delivery:** Online through the CHOICE platform.

**Item Formats:** Multiple Choice/Multiple Response

Upon successful completion, candidates will earn the CertNexus DSBIZ credential.

## Exam Description

### Target Audience:

The DSBIZ assessment is primarily designed for business professionals and leaders who are interested in growing the business by leveraging the power of data science. Other individuals who wish to explore basic data science concepts are also candidates for this assessment.

**Exam Objective Statement:**

Upon successful completion of the DSZ-210 assessment, business professionals will demonstrate an understanding of what data science is, how it relates to and can benefit business functions, identify potential risks, and demonstrate an understanding of the challenges and milestones of implementing data science and becoming a data-driven organization.

To ensure that candidates possess the aforementioned knowledge, skills, and abilities, the DSBIZ assessment will test them on the following domains with the following weightings:

<b>Domain</b>	<b>% of Examination</b>
<b>1.0 Understand Data Science Fundamentals</b>	28%
<b>2.0 Identify Business Uses for Data Science</b>	24%
<b>3.0 Implement Business Requirements for Data Science</b>	24%
<b>4.0 Identify Data Science Risks</b>	24%
<b>Total</b>	<b>100%</b>

The information that follows is meant to help you prepare for your certification exam. This information does not represent an exhaustive list of all the concepts and skills that you may be tested on during your exam. The exam domains, identified previously and included in the objectives listing, represent the large content areas covered in the exam. The objectives within those domains represent the specific tasks associated with the job role(s) being tested. The information beyond the domains and objectives is meant to provide examples of the types of concepts, tools, skills, and abilities that relate to the corresponding domains and objectives. All of this information represents the industry-expert analysis of the job role(s) related to the certification and does not necessarily correlate one-to-one with the content covered in your training program or on your exam. We strongly recommend that you independently study to familiarize yourself with any concept identified here that was not explicitly covered in your training program or products.

## Domains and Objectives

### Domain 1.0 Understand Data Science Fundamentals [25%]

#### Objective 1.1 Define data science terms and concepts.

- Data science
- Data analytics
- Descriptive analytics
  - Business intelligence
  - Data mining
  - Data visualization
    - Storytelling with data
    - Summary statistics
- Predictive analytics
  - Root cause modeling and analysis
  - Forecasting
  - Pattern identification
- Prescriptive analytics
  - Simulation
  - Optimization
- Diagnostic analytics
  - Root cause analysis
  - Identification of technical issues
- Statistical analysis
  - Sampling techniques
  - Distribution of data
  - Central tendency
  - Dispersion
  - Conditional probability
  - Computational statistical interference
  - Linear models
  - Bayesian models
- Artificial intelligence
  - Algorithms
  - Generative AI
- Machine Learning
  - Deep learning
- Programming tools
  - Python
  - R
  - SQL
  - NumPy and Pandas
  - Open source
- APIs
- Web scraping
- Velocity of data
- Data types

- Structured
- Unstructured
- Big data

**Objective 1.2 Describe the data science lifecycle.**

- Discovery
  - Data acquisition
  - Sourcing
- Data preparation
  - Exploration
  - Profiling
  - Pre-processing
  - Cleansing
- Model planning
- Model building
  - Running
  - Testing
  - Revising
- Model implementation
- Communication of results

**Domain 2.0 Identify Business Uses for Data Science [25%]**

**Objective 2.1 Improve customer experience (CX).**

- Personalized customer experience
  - Sentiment analysis
  - Recommender systems
- Self-service support
  - Chatbots
  - Virtual assistants

**Objective 2.2 Improve marketing efforts.**

- Audience segmentation
- Targeted advertising
- Campaign optimization
- Measurement analysis

**Objective 2.3 Optimize organizational and transactional security.**

- Fraud detection
- Minimize loan defaults
- Reduce intellectual property theft
- Identify and mitigate risks
- Cybersecurity

**Objective 2.4 Enhance operational practices.**

- Predict system or component failure
- Optimize sales forecasting
- Implement dynamic pricing
- Identify reasons for customer churn
- Optimize talent acquisition

- Optimize transportation and logistics

## **Domain 3.0 Implement Business Requirements for Data Science [25%]**

### **Objective 3.1 Develop a data-centric organization.**

- Prepare organizations for data science implementation
  - Define potential contribution of data science for the organization
  - Alignment of data science with corporate strategy
  - Alignment of data science with organizational resources
  - Alignment of data science with organizational culture
    - Design thinking
    - Critical thinking/objectivity
    - Accurately communicating results
    - Business acumen/data-driven decisions
    - Learning organization/professional development and upskilling
- Prepare teams for data science implementation
  - Talent acquisition
  - Training
  - Combination of roles

### **Objective 3.2 Develop an implementation strategy.**

- Identify business case for using data science
- Identify organizational investments to be made to implement data science projects
- Identify factors related to data discovery
  - Collection of relevant data
  - Methods of collecting relevant data
  - Tools for generating data
  - Methods for storing data
  - Tools for storing data
  - Appending data
- Identify factors related to data preparation
  - Data wrangling/munging
  - Cleaning data
  - Tools for preparing data
  - Analyzing data
  - Tools for data analysis
- Identify factors related to modeling
  - ETL process
  - Model types
  - Model testing
  - Model revision
  - Evaluation of model results
  - Model implementation
- Identify factors related to communicating model results
  - Document key findings
  - Create visual representation of insights

- Develop reports and other assets for stakeholders
- Identify factors related to data visualization
  - Audience
  - Charts
  - Tables
  - Tools for data visualization

## **Domain 4.0 Identify Data Science Risks [25%]**

### **Objective 4.1 Describe the impact of data science on business.**

- Impact on overall business operations
  - Reputational impact
  - Talent gaps (expertise, training, and experience)
  - Legal and regulatory violations
- Impact on business processes
  - Cost
  - Infrastructure requirements
  - Employee impact
  - Organizational changes
- Data issues
  - Data security (breach and theft)
  - Low-quality data
  - Data privacy violations
  - Lack of data controls
- AI-related risks
  - Lack of formal governance for AI
  - Acquisition of third-party data and AI products
  - Lack of domain expertise in pre-production reviews
  - Use of black-box models and technologies

### **Objective 4.2 Identify governance measures.**

- Ethical considerations
  - Privacy
  - Accountability
  - Transparency and explainability
  - Fairness and non-discrimination (bias)
  - Safety and security
- Legal and regulatory considerations, frameworks, and guidelines
  - EU GDPR
  - PCI DSS
  - OECD Privacy Guidelines
  - APEC Cross-Border Privacy Rules (CBPR)
  - Jurisdictional issues
    - US federal and state-level privacy legislation
    - EU legislation, frameworks, and regulations
    - Data privacy legislation in other countries
    - AI legislation

## Data Science Acronyms

<b>Acronym</b>	<b>Expanded Form</b>
ADPPA	American Data Privacy Protection Act
AI	Artificial intelligence
AIDA	Artificial Intelligence and Data Act (Canada)
APEC	Asia-Pacific Economic Cooperation
API	Application programming interface
BI	Business intelligence
CBPR	Cross-Border Privacy Rules
CDPA	Consumer Data Protection Act (State of Virginia)
COPPA	Children's Online Privacy Protection Act
CPA	Colorado Privacy Act
CPRA	California Privacy Rights Act
CTDPA	Connecticut's Data Privacy Law
CX	Customer experience
DL	Deep learning
DMA	Digital Marketing Act (EU)
DS	Data science
DSA	Digital Services Act (EU)
ETL	Extract, transform, and load
ePR	E-Privacy Regulation (EU)
ESG	Environmental, social, and governance
FCRA	Fair Credit Reporting Act
FERPA	Family Educational Rights and Privacy Act
GDPR	General Data Protection Regulation
GLBA	Gramm-Leach-Bliley Act
HIPAA	Health Insurance Portability and Accountability Act
IoT	Internet of Things
LGPD	General Law for Protection of Personal Data (Brazil)
ML	Machine learning

NLP	Natural Language Processing
OCR	Optical character recognition
OECD	Organisation for Economic Co-operation and Development
PIPEDA	Personal Information Protection and Electronic Documents Act (Canada)
PIPL	Personal Information Protection Law (China)
SHIELD	Stop Hacks and Improve Electronic Data Security Act (State of New York)
SQL	Structured Query Language
UCPA	Utah Consumer Privacy Act



CertNexus offers personnel certifications and micro credentials in a variety of emerging technology skills including Cybersecurity, Cyber Secure Coding, the Internet of Things (IoT), IoT Security, Data Science, Artificial Intelligence, and Data Ethics. For a complete list of our credentials visit <https://certnexus.com/certification/>.

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