This Data and Insurance Series Course, Introduction to Data and Analytics (the DISC DA Course), prepares CAS candidates for a 100-minute, seventy-five-point multiple-choice examination. The online course and exam were developed collaboratively with The Institutes. The online course is available through the Casualty Actuarial Society Online Courses webpage on The Institutes' website. Similarly, the exam is administered online by The Institutes during four two-month testing windows annually.

The study material for DISC DA Course is contained in the online course access. The fee for access to the online course includes one attempt at passing the exam. Candidates are required to purchase the online course to obtain access to the exam. Exam retakes may be purchased separately if needed.

Purchasing the course requires that candidates declare the testing window in which they are planning to take the exam. To register for the exam, a candidate must call The Institutes at 800.644.2101 or 610. 644.2100, extension 6000, to register for the exam itself. This will make the candidate eligible for the associated online exam.

There is a $95 fee for changing testing windows. Questions or concerns regarding DISC DA should be directed to The Institutes' Customer Success group at 800.644.2101 or 610. 644.2100, extension 6000, or CustomerSuccess@TheInstitutes.org.

Assignment 1: Planning an Insurer Data Modeling Project

MODULE TITLE	LEARNING OBJECTIVES
Harnessing the Power of Data	Explain how insurers and risk managers use data-driven decision making.
Applying Data Quality Principles	Apply data quality principles to an insurer data modeling project.
Documenting Data	Illustrate key data documentation practices.
Classifying Data	Differentiate among significant classifications of raw data.

Assignment 2: Collecting Data for Insurer Models

MODULE TITLE	LEARNING OBJECTIVES
Insurer Operational Data	Describe key facets of an insurer's operational data.
Statistical Plans	Compare the two basic types of statistical plans used in insurers' predictive modeling and ratemaking.
External Data Sources	Distinguish among the external sources of data for insurer models.

Assignment 3: Preparing Data for Analysis

MODULE TITLE	LEARNING OBJECTIVES
Managing Dataframes	Describe the fundamentals of managing dataframes
Querying Data	Explain how to query data from a database using Structured Query Language.
Joining Data Tables	Explain how to join data tables using Structured Query Language.
Indexes, Null Values, and User-Defined Functions	Explain how Structured Query Language's indexes, null values, and user-defined functions help optimize data retrieval.
Extracting Data From Internet Sources and Data Marts	Distinguish between frequently used methods for obtaining data from the Internet and data marts.
Testing Data	Summarize the fundamental concepts associated with testing data.

Assignment 4: Working With Different Types of Data

MODULE TITLE	LEARNING OBJECTIVES
Working With Structured Data	Explain how to work with frequently encountered types of structured data
Working With Unstructured Data	Explain how to work with frequently encountered types of unstructured data
Working With Messy Data	Illustrate the basic categories of messy data and how to treat data drawn from them.

Assignment 5: Analyzing Data With Visualizations

MODULE TITLE	LEARNING OBJECTIVES
Planning an Effective Data Exploration	Prepare for an effective data exploration
Data Exploration Fundamentals	Examine the prevalent statistical methods for exploring data
Fundamentals of Exploratory Data Visualizations	Explain why the prevalent types of exploratory data visualizations are used.
Basics of Creating Plots	Compare the prevalent methods for creating plots.

Assignment 6: Effectively Presenting Data

MODULE TITLE	LEARNING OBJECTIVES
Keys to Effective Presentation Visualizations	Use best practices for creating presentation visualizations.
Selecting the Right Presentation Visualization	Choose the right visualization type to present data, given the advantages and disadvantages of each.
Maximizing a Presentation Visualization's Effectiveness	Apply methods that provide clarity in a presentation visualization.

Assignment 7: Understanding Fundamental Data Modeling Concepts

MODULE TITLE	LEARNING OBJECTIVES
Basic Data Modeling Concepts	Differentiate among the data basic modeling techniques actuaries use.
Similarity and Distance in Data Modeling	Illustrate how actuaries apply similarity and distance in data modeling.
Predictive Model Training and Evaluation	Determine how actuaries train and evaluate predictive models.

Assignment 8: Applying Basic Data Analysis

MODULE TITLE	LEARNING OBJECTIVES
Traditional Data Analysis	Summarize traditional data analysis techniques and how actuaries apply them to risk management and insurance.
Analyzing Data With Classification Trees	Explain how actuaries use classification trees to analyze risk management and insurance data.
Analyzing Data With Linear Functions	Explain how actuaries use linear functions to analyze risk management and insurance data.
Segmenting Data With Cluster Analysis	Explain how actuaries use cluster analysis to segment risk management and insurance data.

Assignment 9: Preparing Data for Insurance Applications

MODULE TITLE	LEARNING OBJECTIVES
Insurance Applications of Data Preparation	Apply Structured Query Language to develop profiles from premium and loss data summaries.
Creating Datasets for Claims Models	Examine the process of creating datasets for claims models.
Creating Datasets for Underwriting Models	Examine the process of creating datasets for underwriting models.

Assignment 10: Ethical and Societal Considerations

MODULE TITLE	LEARNING OBJECTIVES
The Insurer Data Modeling Ethical Landscape	Explain why fairness and transparency are essential to ethical insurance data modeling.
How Regulations and Professional Codes Affect Insurer Data Modeling	Explain how the goals of regulations and professional codes apply to data-related actuarial work.
Applying an Ethical Checklist to Insurer Data Modeling	Use a checklist for ethical decision making in an insurer data modeling project.
Societal Impact of Insurer Credit Modeling	Explain the societal impact of insurer credit modeling.

Study Materials for DISC DA

DISC DA comes with proven comprehensive study materials to help you take your exam with confidence:

Printable Study Outline—Perfect for taking notes, the printable study outline has key points for each assignment and review questions (and answers!) to help you test your knowledge as you move through the course.

Practice Quizzes—Quickly see where your knowledge gaps are with online practice quizzes for each assignment and for the full course. And bonus—take them as many times as you want.

Simulated Exam—Designed to give you the full experience of your final exam, the simulated exam is a timed exam that you can take only once. It mimics the exam structure and level of questions you'll find on the actual exam. Students who take their Institutes simulated exam pass their exams at higher rates than students who don't.

Flashcards—Test yourself on key terms with flashcards that help you fit studying into your busy schedule.

Depending on the package you choose, you may receive a printed course book as well.

Questions about potentially defective questions or material should be directed to The Institutes' Customer Success group at 800.644.2101 or 610. 644.2100, extension 6000, or CustomerSuccess@TheInstitutes.org.

Publisher and Distributor

CAS DISC DA is available through The Institutes.

> The Institutes, 720 Providence Road, Suite 100, Malvern, PA 19355-3433; telephone: 800.644.2101 or 610.644.2100, ext. 6000; e-mail: CustomerSuccess@TheInstitutes.org; website for CAS Online Courses: www.aicpcu.org/cas.htm.

Exam Results

Candidates taking this computer-based test will receive unofficial pass/fail results at the conclusion of their exam. The unofficial pass/fail result will be displayed on the computer screen at the conclusion of the exam. The candidate should carefully read the result that is displayed on the computer screen at the conclusion of the exam.

When the official grades have been processed, candidates will receive an e-mail from The Institutes stating that their grades are available. Candidates may then log into their account on The Institutes' website (www.TheInstitutes.org) to access their grades. The grade report for each candidate will show the candidate's overall score on the exam in ten-point increments (e.g., 60 to 69%, 70 to 79%, and so on). It will similarly show the candidate's performance by assignment using those same ten-point increments.