Iowa Department of Administrative Services – Human Resources Enterprise
Classification Series Guidelines

Data Analytics/Science Series

Classes in the Series

Class Code	Class Title
00511/90511	Data Analyst 1
00512/90512	Data Analyst 2
00513/90513	Data Scientist 1
00514/90514	Data Scientist 2

Series Concept

Positions in this series utilize data analysis and data science techniques to assist agencies in making data-driven decisions, predicting outcomes, and enhancing operational efficiency. These roles perform tasks such as data collection, cleaning, analysis, visualization, and the design and implementation of predictive models to generate insights that support informed decision-making. Depending on the level, positions in this series may focus on basic descriptive analysis or advanced machine learning and complex statistical modeling.

By providing insights from both structured and unstructured data, these positions play a critical role in improving agency performance, upholding data security and compliance standards, and promoting continuous improvement in data processes and practices.

Exclusions

The following are excluded from classification within this series:

1. Positions that primarily perform general programming, software engineering, or IT support functions.
2. Positions where data analysis is incidental to administrative duties or project management, where specialized data knowledge is not essential.

Class Distinctions

Data Analyst 1

Positions in this class primarily focus on structured data analysis to address specific questions, generate routine reports, and provide descriptive or diagnostic insights. These roles concentrate on analyzing historical data to understand past or current trends in a business context. Responsibilities include data gathering, cleaning, and analysis using established methods, with limited decision-making authority, operating under direct supervision. Employees in this class typically use tools such as Excel, SQL, and basic business intelligence software to create visualizations and summaries that aid in routine business decision-making.

- *Complexity*: Focuses on basic analysis (descriptive analytics) with structured data, working with predefined processes and methods.
- *Autonomy*: Limited; operates under close supervision, following clearly defined tasks.
- *Skills Applied*: Fundamental data collection, cleaning, and interpretation of basic patterns.

- *Scope*: Primarily supports business decision-making by summarizing historical data trends without complex diagnostic or predictive components.
- *Decision-Making*: Minimal decision-making responsibility; tasks are more operational and routine.

Data Analyst 2

Positions in this class perform more complex analyses on larger, structured datasets that may include varied data sources. At this level, employees apply diagnostic techniques to identify trends, relationships, and root causes, supporting business problem-solving with moderate supervision and some decision-making autonomy. They enhance reporting processes, develop advanced visualizations, and automate workflows to improve data efficiency. Employees leverage tools such as SQL, Python, and business intelligence platforms (e.g., Tableau, Power BI) and work collaboratively across teams, often contributing recommendations for workflow improvements and process optimization.

- *Complexity*: Performs moderately complex analyses (descriptive and diagnostic), working with larger datasets and producing advanced visualizations.
- *Autonomy*: Moderate; some autonomy in task execution, able to make decisions within the framework of moderately complex analyses.
- *Skills Applied*: Enhanced data analysis skills, such as diagnostic analytics, automation, and visualization.
- *Scope*: Begins to work cross-functionally, indicating a broader influence on addressing business needs.
- *Decision-Making*: Moderate; some independent decision-making is allowed, with increased problem-solving responsibilities.

Data Scientist 1

Positions in this class apply statistical methods and machine learning algorithms to both structured and unstructured datasets, design models to predict outcomes, and provide prescriptive insights while using programming languages like Python or R. They also develop new approaches, processes, and procedures that support complex decision-making, data manipulation, and analysis. They collaborate with teams to implement these models and solutions operating with significant autonomy and some decision-making authority.

- *Complexity*: Engages in predictive and prescriptive analytics, working with structured and unstructured data, and applying statistical and machine learning methods.
- *Autonomy*: Moderate; operates with more autonomy than Data Analyst roles, with some level of independent decision-making.
- *Skills Applied*: Advanced statistical analysis, data modeling, and basic machine learning algorithms. Also includes programming in languages like R or Python.
- *Scope*: Works on solving business problems with predictive insights, often impacting strategic decision-making.
- *Decision-Making*: Moderate decision-making authority; collaborates cross-functionally and interprets data to guide business strategies.

Data Scientist 2

Positions in this class lead large-scale data projects, applying advanced techniques such as deep learning and natural language processing. As the agency's primary lead for major data initiatives, a Data Scientist 2 is responsible for designing new processes, algorithms, and models to extract insights from highly complex, often unstructured datasets with substantial decision-making power, operating with full autonomy, and guiding the design and execution of an agency's data strategies. They lead or mentor

teams and develop data frameworks and governance practices to ensure best practices in data usage across the agency for addressing strategic business problems through data-driven solutions.

- *Complexity*: Tackles open-ended problems, creating advanced machine learning models for strategic decision-making.
- *Autonomy*: High; this role has significant independence, leading data projects.
- *Skills Applied*: Proficient in advanced machine learning and statistical methods, with expertise in handling large, unstructured datasets.
- *Scope*: High impact on agency strategy, as this role often guides data-driven innovation and may serve in a lead or mentoring capacity.
- *Decision-Making*: Substantial; leads projects and influences high-level decisions through advanced analytics.

Effective date: 11/24 SA