

New York State Department of Civil Service
DIVISION OF CLASSIFICATION & COMPENSATION

Classification Standard

Occ. Code 2490100

Data Analyst 1, Grade 18	2490100
Data Analyst 2, Grade 23	2490200
Data Analyst 3, M-2	2490300
Data Analyst 4, M-4	2490400

Brief Description of Class Series

Data Analysts develop and implement techniques and analytics applications to transform raw data into intelligence using data-oriented programming languages, statistical and mathematical computations, and visualization software; apply data mining, data engineering, data modeling, natural language processing, and machine learning to extract and analyze information from structured and unstructured datasets; and visualize, summarize, interpret, and report data findings.

Distinguishing Characteristics

Data Analyst 1: non-competitive; entry level; performs the simpler professional data analysis activities; collaborates with higher level staff to develop business intelligence solutions; and may provide guidance to Data Analyst Trainees 1 and 2.

Data Analyst 2: non-competitive; full performance level; independently performs a wide range of professional data analysis activities; and may supervise Data Analysts 1 or Trainees.

Data Analyst 3: non-competitive; supervisory level; conducts the most difficult analysis of data; meets with business areas to discuss the development of the agency strategy for analytics solutions; and supervises a team of Data Analysts 1 and 2.

Data Analyst 4: non-competitive; managerial level; serves as manager over the data analytics unit; develops and executes a strategy for analytics solutions across business functions; and directly supervises multiple Data Analysts 3.

Related Classes

Program Research Specialists plan studies; collect and analyze data; interpret and report findings on current or proposed programs, policies, and legislation related to

such programs to determine the actual or potential effectiveness in achieving objectives; identify weaknesses in programs and make recommendations for modifications; and provide advice and consultation to agency management on program operations.

Research Scientists perform basic research involving the formulation, conduct, analysis, interpretation, and reporting of scientific investigations of phenomena or problems, and perform research in specialized fields, such as the medical, biological, or behavioral sciences at various State agencies. Work typically results in publishable contributions to the scientific field under study, and is typically subject to peer review.

Tax Policy Analysts evaluate the state's tax structure and the effect of changes on taxpayers, businesses, the economy, and tax revenues. They develop and implement statistical tax studies and conduct policy research; report their findings from simulations and forecasting models to executive managers, the legislature, and the New York State Division of the Budget; and develop tax-related legislative proposals and data regarding revenue estimates of such proposals. These positions are located at the New York State Department of Taxation and Finance.

Positions in the Economist (Labor Research) title series apply economic theories to the collection and analysis of information related to various labor market information, employment by area and industry, labor supply and demand, and occupational wages. This analysis is used to interpret economic data, and formulate solutions to solve economic problems. These positions are only classified at the Department of Labor.

Illustrative Duties

Data Analyst 1: works with business units to develop and build models in support of analytic use cases; drafts technical requirements and data definitions; provides input on current approaches and recommends improvements to best achieve goals; reviews and suggests improvements to current or planned systems and processes; performs data extraction, aggregation, and quality checks from multiple sources and tables in support of trend identification and root cause analysis; summarizes results, creates written reports and collaborates with staff to develop business intelligence solutions.

Data Analyst 2: produces business intelligence solutions by querying data repositories and generating periodic reports; devises methods for identifying data patterns and trends in data sources; assesses data structures and how they can be used to produce desired reports; researches new data sources and analytical tools, and recommends solutions; conducts or coordinates tests to ensure that business intelligence solutions are consistent with defined needs; tests, validates, and reformulates models to ensure accurate prediction of outcomes of interest; drafts new functions or applications in programming languages to conduct analyses; creates written reports and effectively communicates/presents results; and may supervise lower level staff.

Data Analyst 3: coordinates the analysis of trends in data sources and the assessment of data structures; reviews data sources and reports produced by lower-level staff for accuracy; conducts the most difficult analysis of data; meets with business areas to discuss the development of the agency strategy for analytics solutions; oversees the drafting of informational documents on analytics solutions; reviews and suggests improvements to current or planned systems and processes; and supervises a team of Data Analysts 1 and 2.

Data Analyst 4: oversees the data analytics unit by developing and executing a strategy for analytics solutions across business functions; directs staff in the evaluation of current approaches to ensure they best achieve goals; leads staff in developing and preparing a consistent set of operational reports that reflect established standards and metrics; provides expertise on how to properly store, analyze, and interpret data; leads idea generation and design of campaigns across analytics use cases and manages key performance indicators for end-to-end delivery; and administratively supervises Data Analysts 3 and lower level staff.

Minimum Qualifications

Data Analyst 1

Non-competitive: bachelor's degree in data or computer science, informatics, economics, statistics, mathematics, or a related field, and either: satisfactory completion of a two-year traineeship or two years of experience* in data visualization, and statistical models and data mining tools.

Data Analyst 2

Non-competitive: one year of permanent service as a Data Analyst 1 OR bachelor's degree in data or computer science, informatics, economics, statistics, mathematics, or a related field, and three years of experience* in data visualization, and statistical models and data mining tools.

Data Analyst 3

Non-competitive: one year of permanent service as a Data Analyst 2 OR bachelor's degree in data or computer science, informatics, economics, statistics, mathematics, or a related field, and five years of experience* in data visualization, and statistical models and data mining tools.

Data Analyst 4

Non-competitive: one year of permanent service as a Data Analyst 3 OR bachelor's degree in data or computer science, informatics, economics, statistics, mathematics, or a related field, and seven years of experience* in data visualization, and statistical

models and data mining tools. Two years of the experience must have been at a managerial level.

*Substitution: A master's degree in the above fields may substitute for one year of the specialized experience. A Ph.D. in the above fields may substitute for two years of the specialized experience.

Note: Classification Standards illustrate the nature, extent, and scope of duties and responsibilities of the classes they describe. Standards cannot and do not include all the work that might be appropriately performed by a class. The minimum qualifications above are those required for appointment at the time the Classification Standard was written. Please contact the Division of Staffing Services for current information on minimum requirements for appointment or examination.

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