BUSINESS RESEARCH AND DATA ANALYTICS SPECIALIST (FINANCE)

General Statement of Duties and Responsibilities

This class of positions encompasses the performance of professional and technical work using qualitative and quantitative data or a mixture of both, data mining, modeling, econometrics, programming, statistical and economic analysis to scrutinize conclusions based on the data. There are three Assignment Levels of expertise and responsibility within this class of positions. This position includes specialized work to support analysis of tax revenue and tax law, identification of underreporting and non-filing businesses, and the production of the assessment roll, which are all tasks unique to the Department of Finance. Work entails analysis of large data sets using analytic programming languages. All personnel perform related work.

Conducts research to support evaluation of the City's tax policy, performs data mining and modeling to support audit selection; conducts complex technical analyses of data for tax revenue and tax collections purposes; formulates spatially aware models for property valuation, and utilizes the geographic information system to administer and maintain the City's official register of real property.

Assignment Level I

Under supervision, performs difficult technical work related to tax and operational data infrastructure and systems. Performs statistical analysis and programming work of more than ordinary difficulty and responsibility in order to manipulate large datasets and perform complex statistical analysis.

Examples of Typical Tasks

Performs data cleaning and analysis and measure data quality.

Performs metadata-related work such as providing data documentation support, defining transformation rules for data processing, naming database fields, and testing data dictionary quality.

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Examples of Typical Tasks (continued)

Manipulates large datasets in various formats and critically analyze findings for special projects.

Provides data match support to operational units.

Creates and maintains databases for revenue monitoring, policy analysis, property valuation and audit selection.

Produces and maintain maps within a geographic information system environment.

Develops and runs models to identify underreporting and non-filer candidates for further scrutiny by auditors and investigators.

Develops and runs microsimulation models to identify the revenue and distributional impact of changes in tax law.

Serves as project manager for programs or initiatives related to improving operational efficiencies.

Assignment Level II

Under direction, in addition to performing the duties of Assignment Level I, conducts highly specialized statistical studies and policy modeling, involving advanced econometrics and highly complex statistical methods, advanced mapping techniques, working independently. In the absence of the immediate supervisor, may temporarily perform duties of that position.

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Examples of Typical Tasks (continued)

Develops and maintain complex computer models to evaluate various budget and policy options, to construct tax policy option simulations and to perform complex economic and statistical research.

Designs and selects random stratified samples.

Analyzes and maintain tax databases of sampled returns and maintaining computer programs.

Develops and implements complex models and perform datamining, such as property valuation and audit and enforcement selection by identifying non-filers and under-reporters.

Uses regression analysis to conduct statistical scoring algorithms for identifying audit-worthy tax returns.

Analyzes model prediction outliers and data trends.

Performs econometric analyses to evaluate residential and commercial property values.

Performs spatial analysis to measure locational effects on property values.

Constructs forecasting models using macroeconomic data relevant to real estate markets.

Codes geographic information system scripts for batch processing.

Assignment Level III

Under general direction, in addition to performing the duties of Assignment Level I and II, defines program initiatives, sets research agendas, and introduces alternative methods of operation. May supervise as needed.

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Examples of Typical Tasks

Supervises staff in the use of statistical packages for tabulation, graphing, mapping, and data analysis.

Reviews statistical output; evaluates various options and performs complex economic and statistical research.

Evaluates proposed changes to tax law and develops the most appropriate simulations to estimate their revenue and distributional impact.

Recommends and implements new methods related to data mining, prediction, and forecasting for operational purposes, such as property valuation, audit and enforcement selection.

Develops and maintains computer programs to document replication of results.

Qualification Requirements

1. A master's degree from an accredited college or university in social science, economics, statistics, computer science, data analysis, geography, sciences, technology, engineering, mathematics (STEM), or a closely related field, with at least 12 credits or five courses in economics, public policy, econometrics, statistics, mathematics, engineering, geography or computer science.

2. A baccalaureate degree from an accredited college or university as described in "1" above and two years of full-time, professional experience performing statistical analysis and programming work in any of the areas described in "1" above.

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Special Note:

To be eligible for placement in Assignment Level II, individuals must have, in addition to meeting the minimum requirements, at least one year full-time work experience in a related field, or a master's degree from an accredited college or university, in the areas described in "1" above, with at least 12 credits or three advanced courses in economics, public policy, econometrics, statistics, mathematics, engineering, geography, or computer science.

Special Note:

To be eligible for placement in Assignment Level III, individuals must have, in addition to meeting the minimum requirements of Level II, at least three years full-time work experience in a related field, or a Doctorate degree from an accredited college or university, in the areas described above, with at least 12 credits or three advanced courses in economics, public policy, econometrics, statistics, mathematics, engineering, geography or computer science.

Direct Lines of Promotion

None. This class of positions is classified in the Non-Competitive Class.