SENIOR DATA ANALYST

JOB DESCRIPTION

Classification Responsibilities: A Senior Data Analyst is responsible for assisting departments and divisions with the development and use of data analysis and reporting solutions that provides actionable insights and informs managerial decision-making to address social, economic, and City management issues and to drive improvements to the City's delivery of services. A Senior Data Analyst creates, participates in, and ensures a successful data analytics practice that helps the City find trends; uncovers opportunities; predicts actions, triggers, or events; and makes decisions. The major activities include:

*Data Analysis***:** Configures and uses data analytic methods, software, and tools to capture, process, organize, and analyze data from existing operational and financial source systems, field observations, interviews, and business processes to provide actionable insights and decision support to help inform management decisions and city policies; assists in creating tools to collect needed data as appropriate; conducts a variety of types of data analysis including descriptive (what happened) and diagnostic (why did it happen); predictive (what will happen), and prescriptive (what should be done); applies advanced analytical, statistical, simulation, and/or optimization methods related to project work; and provides sound perspective on modeling approach, technique, and tools where appropriate in resolving the business problem.

Data Discovery and Preparation: Uses a variety of analytical tools and methods to identify data sources, gather, clean, and package extensive data files; apply analytical, statistical, longitudinal, simulation, value-at-risk, and/or optimization methods related to project work; acquires, cleans, integrates, analyzes, and interprets disparate datasets using a variety of geospatial and statistical data analysis and data visualization methodologies; identifies data sources; chooses and uses appropriate techniques and software tools to answer questions; apply transformations as needed to prepare data to answer business questions or other analysis, load or move data as appropriate to other data repositories, datasets, online data portals, and reporting environments; and applies dimensions of data quality and other methods to analyze readiness of data assets to inform decisions, and recommend data governance and management processes to improve quality of city assets.

Data Visualization and Dashboards: Uses a variety of software and visualization tools to create, manage, and maintain data visualizations that assist management and city staff to understand data trends, monitor service delivery and performance, track key performance indicators, etc. Identify and support new process improvement and performance management opportunities as informed by data and understanding of City processes.

*Project Management***:** Communicates with multiple stakeholders including internal and external staff, contractors, vendors, suppliers, management, and public officials to successfully complete projects; reviews and coordinates acquisition and organization of data; provides transparent and inclusive information to all involved stakeholders; reports and authors findings where appropriate; and collaborates with team members on projects related to performance management and continuous improvement.

Culture of Data-Driven Decisions: Improves citywide data analysis capacity by assisting data users with projects, including identifying data sources, and helping choose and use appropriate techniques and

software tools to answer questions; conducts research using academic and secondary sources to identify and understand evidence-based solutions on topics common to mid-sized local governments; contributes to preparing reports and presentations on research findings and communicate project results both externally and internally; and trains, coaches, and mentors City staff on topics related to data analysis and analytics.

This class performs related duties as required.

Distinguishing Features: Work requires considerable independent judgement and initiative in combining a broad scope of professional, organizational effectiveness, knowledge, and analytical judgement to resolve a variety of complex citywide issues. Incumbents are required to carry out assignments without detailed instruction or guidance. This position is expected to assess and promote data-driven decision-making analysis that will improve City operations and outcomes for Mesa residents and visitors. The Senior Data Analyst is distinguished from the Data Analyst in areas of responsibility related to the level of advanced training, support, and information provided to department leadership and management for decision-making, as well as in the types of analysis performed and/or lead that includes predictive and prescriptive analysis projects that incorporate analytic models. Employees in this class must demonstrate analytical skills, as well as considerable working knowledge of methodologies and techniques for business process modeling, requirements gathering, and quality assurance; and must exercise professional discretion while performing day-to-day activities independently within established guidelines and procedures with minimal supervision. This class is supervised by the Chief Data Officer who reviews work through conferences, reports, and overall results achieved. Employees may progress to this class by non-competitive promotion upon meeting specific criteria-based promotion requirements of performance, training, and experience. This class is FLSA exempt-administrative.

QUALIFICATIONS

Employee Values: All employees of the City of Mesa are expected to uphold and exhibit the City's shared employee values of Knowledge, Respect, and Integrity.

Minimum Qualifications Required. Graduation from an accredited college or university with a Bachelor's Degree in Business Analytics, Data Analytics, Data Science, Public Administration, Organizational Development, Management Sciences, Engineering, Statistics, or a related field, OR graduation from an accredited college or university with a Bachelor's Degree and completion from an accredited certificate program in Business Analytics, Data Analytics, Data Science, or a related field. A minimum of five years full-time, professional work experience in a quantitative field with demonstrated expertise in statistical, analytical software (examples: SQL tools, Microsoft Excel, Power BI, Tableau, common statistics programs, etc.). Graduation from an accredited college or university with a Master's Degree in Business Analytics, Data Analytics, Data Science, Public Administration, Organizational Development, Management Sciences, Engineering, Statistics, or a related field can substitute for two years of work experience. Two years of full-time employment with the City of Mesa as a Data Analyst and a Master's Degree in a field described above will also be considered as meeting the minimum qualifications requirement.

Special Requirement. An individual must pass a background investigation through the City of Mesa Police Department *(by assignment)*.

Substance Abuse Testing.   None.

Preferred/Desirable Qualifications.   Graduation from an accredited college or university with a Master's Degree in Business Analytics, Data Analytics, Data Science, Computer Science, or Statistics. Extensive (5+ years) professional work experience in a quantitative field with demonstrated expertise in statistical, analytical software (examples: SQL tools, Microsoft Excel, Power BI, Tableau, R, Python, Apache Spark, Qlik, Jupyter, other common statistics programs, etc.). Supervisory or lead experience.

ESSENTIAL FUNCTIONS

Communication: Communicates orally and in writing to management, other City employees, external vendors, customers, and consultants to promote, establish, and align effective management systems and practices. Consults, organizes, and advises management on a broad range of data products, effective management practices, and issues. Works closely with executive staff to facilitate holistic integration of innovative, data-based strategic solutions, and works with technical professionals to establish working relationships to help improve City operations.

Manual/Physical: Operates a variety of standard office equipment such as a personal computer (PC), projector, telephone, calculator, scanner, and printer. Uses a computer to write reports, letters, and enter information. Prepares visualizations, products, and presentations that describe analysis and can be used to inform decisions. Prepares and presents information for management review. Meets scheduling and attendance requirements.

Mental: Thinks analytically. Designs, plans, organizes, initiates, manages, recommends, coordinates, consults, and facilitates assigned projects. Identifies long-term management, process, and system deficiencies and needs. Conducts primary research and analyzes data (financial, written, and observed) to obtain evidence, confirm hypotheses, develop trends, detect abnormalities, ascertain practices, identify implicit and explicit biases, identify management structure, and make recommendations to management. Builds analytical, operational, and financial models. May perform mathematical calculations, statistical computations, and financial and/or cost analysis.

Knowledge/Skills/Abilities:

Knowledge of:

data visualization design principles;
continuous improvement philosophy and Citywide applications;
change management to create a coalition, develop a strategy, communicate the vision, and anchor new approaches in the culture;
advanced statistical techniques;
principles and procedures of research, data collection, and report preparation; and
various analytical models (forecast, process improvement, optimization, labor planning, system utilization, what-if and scenario analysis, cause-effect, etc.).

Skill in:

programming in SQL, R, Python, or related programming language, and statistical packages such as SPSS, SAS, or STATA;
extracting data from database systems such as SQL, Oracle, Access, etc.;
extracting and updating data using a variety of vendor and City provided API's;
integrating datasets from multiple systems;
placing data models on usable platforms with outward facing usability;
problem-solving;
strategic curiosity to explore data in creative ways;
managing groups of varied stakeholders at all levels of government to establish shared definitions and understand shared goals; and
managing all aspects of large, complex projects, often managing multiple projects at the same time.

Ability to:

understand City government operations and lines of business;
establish cooperative working relationships with all levels of employees and management and other government and private organizations;
write and speak clearly to easily communicate complex ideas in a way that is easy to understand;
prepare clear, concise, and accurate written documents and reports;
prepare models, visualizations, and presentations;
change direction quickly based on data analysis;
exercise initiative and independent judgement to analyze data and draw conclusions that are meaningful;
make decisions and recommendations that are useful and actionable for management;
manage small and large teams of external and internal stakeholders to reach mutual decisions; and
carry out all duties and communications in a manner to be analytically rigorous, politically independent, analytically transparent, and inclusive of diverse viewpoints.

The duties listed above are intended only as general illustrations of the various types of work that may be performed. Specific statements of duties not included does not exclude them from the position if the work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by the City as the needs of the City and requirements of the job change.

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JB/js/ah
CS5306.DOCX   PAY GRADE: 55
EEO-Prof   IND-9410
JOB FCTN-ADM   SWORN-No
Non-DOT Safety and Security-N   Non-DOT Random-N
CDL-N   DOT-N
RESP-N   `   INCREMENTS 54-200