



CLASS SPECIFICATION

06/14/2018

DATA ANALYST, 1779

Summary of Duties: Collects, analyzes, and researches urban and operating problems through the application of statistical concepts and techniques, mathematical models and simulation development programs; prepares and interprets quantitative analyses using a variety of mathematical and statistical methods; extracts necessary information from various data bases; analyzes data using both description and inferential statistics, prepares statistical and narrative reports; identify, gathers, refine content based data, and perform data analysis; makes recommendation based on the results of analysis; presents findings and recommendation to various groups including department management; may supervise and participate in the work of a small staff engaged in the above work; and does related work.

Class Characteristics: A Data Analyst receives assignments in terms of general objectives of specific research projects and uses independent judgment in determining the approach, steps to be taken, and the research methodology to be employed. The work of a Data Analyst is reviewed in terms of results attained and is utilized in analyzing and recommending solutions to problems. An employee in this class is distinguished from employees in other professional administrative classes because Data Analysts use a variety of advanced data science and predictive analytical techniques such as mathematical modeling and statistical techniques in conducting research on a wide variety of problems.

Example of Duties:

- Compiles, processes, and analyzes data from variety of sources;
- Works closely with data warehouse developers to evaluate data to determine that proper mathematical and statistical techniques have been applied in obtaining, compiling and presenting data and that conclusions drawn follow statistically sound techniques;
- Designs sampling plans for research projects to obtain the maximum possible information in the most economical manner;
- Makes recommendations regarding needed changes in existing research, analysis and reporting methodology and the need for investigation, analysis, and reporting in new areas;
- Provides recommendations and technical assistance to personnel in other offices engaged in developing and conducting statistical research;
- Prepares reports, tabulations, charts, and graphs in order to support recommendations;
- Communicates and works with departments to identify potential challenges and opportunities where data science and/or predictive analytics could be useful.
- Develops and applies statistical formulae for use in preparing reports;

- Uses modern information technology or contemporary statistical tools for necessary calculations;
- Occasionally instructs personnel assigned to assist in the analysis and compilation of studies and reports;
- Supervises and participates in the work of a small technical staff engaged in the design, development and application of mathematical models used in describing the urban structure, predicting changes, and developing and testing alternative plans;
- Collects and prepares social, economic, land use, and other data for processing by mathematical models;
- Uses operations research methods and techniques to analyze and test data collected through the utilization of descriptive statistics, mathematical model development and simulation, correlation and regression analysis, linear programming, and factor analysis;
- Formulates new methods of analysis for planning, problem solving, and computer processing;
- Defines limits, variable, parameters, methods, and evaluates factors related do specific research areas;
- Tests mathematical models by processing historical data to see if results obtained are similar to that which actually occurred in the past;
- Debugs programs as necessary;
- Assists supervisors in evaluating consultant's proposals for the development of mathematical models and simulation techniques;
- Coordinates the interchange of ideas, data, and mathematical models with other municipal and regional planning agencies, local universities, private agencies, and citizens;
- Prepares status reports, technical memoranda, and other reports; and
- May occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications:

Knowledge of:

- Advanced statistical techniques and procedures, mathematics as applied to statistics, and the application of statistical techniques in management problems;
- Principles of designing charts, tables, diagrams, and graphs for reporting and recording data, and the principles of statistical report writing;
- Theory and techniques of operations research and related applications such as mathematical model development and simulation, descriptive statistics, correlation and regression analysis, lineal programming and factor analysis;
- Principles, techniques and sources of information applicable to the collection, analysis, and presentation of social, economic, and physical data;
- Mathematics used to solve statistical problems;
- Various software applications and computer-based tools;
- Socio-economic factors involved in urban planning and urban research;
- Basic programming knowledge used in data collection and analysis; and
- Principles and practices of supervision/

Ability to:

- Initiate, plan, and drive projects completion with minimal guidance;
- Think logically and creatively in approaching research problems;
- Write and communicate clearly;
- Identify new applications and areas of research;
- Plan procedures and techniques for the statistical or mathematical analysis of various problems;
- Ability to recommend and implement products, services, tools or business process changes resulting from the analysis;
- Deal tactfully and effectively with subordinates, management, and officials from other governmental agencies; and
- Give technical guidance to data processing personnel and to advise other professionals on research techniques and capabilities.

Requirements:

1. Graduation from an accredited four-year college or university with a minimum of 12 semester or 18 quarter units in mathematics or statistics; and
2. Two years of full-time paid professional experience conducting quantitative or qualitative statistical analysis.

License: A valid California driver's license may be required.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to the disability, and the ability of the hiring department to reasonably accommodate the limitations.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties and responsibilities of any position shall be.