



<b>Job Title</b>	<b>Operations Research and Statistics Specialist</b>	<b>FLSA Status</b>	<b>Exempt</b>
<b>Band</b>	<b>PRO</b>	<b>Probationary Period</b>	<b>12 Months</b>
<b>Zone</b>	<b>6</b>	<b>Job Code</b>	<b>12731</b>

**Class Specification – Operations Research and Statistics Specialist**

<b>Summary Statement:</b>	
<p>The purpose of this position is to formulate and apply mathematical modeling techniques to develop, interpret, and monitor information that assists management with policy decisions and other managerial functions, including planning, forecasting, resource allocation, and performance measurement; to conduct sophisticated statistical analyses; and to perform a variety of complex analytical duties relative to assigned area of responsibility.</p>	
<b>Essential Functions</b>	Note: Regular and predictable attendance is an essential function in the performance of this job.
<b>Time %</b> (All below must add to 100%)	Note: Time spent on each essential function will vary based on operational needs and is only intended to be an approximation over the course of a full year.
35%	Assist operational and managerial personnel with formulating analytical questions from general issues and detailing assumptions, provide them with data and/or analyses, and assist them with interpretation of that information. Study operational systems and develop a well-defined statement of management’s objectives for operations research projects. Prepare estimates of the time, resources, and costs of conducting operations research studies meeting management’s objectives. Serve as project manager on complex operations research projects that involve multiple personnel or organizations.
35%	Determine available data needed for modeling operational systems. Perform appropriate statistical analyses of data to assess the quality, accuracy, and relevance of information for operations research activities. Define and specify additional data collection methods required to analyze or model operational systems of interest. Develop and/or specify computer databases and software applications that record required data for operational system modeling and monitoring. Recommend changes to existing databases to improve the quality of data and analyses. Formulate mathematical models that adequately represent the operational system under study or evaluation based on accuracy requirements. Develop, test, and validate computer applications for deriving solutions to operations research problems.



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30%	<p>Perform sensitivity analysis of operations research models to determine areas with the greatest effect on operational results. Prepare documentation and develop user procedures for the ongoing application of operations research models to department operations. Model resource deployment under various scenarios, forecast operational needs, and develops alternatives for management’s consideration. Provide statistical analysis of performance measures, resource utilization, and costs to assess or monitor organizational performance as requested by management, elected officials, or the public. Provide periodic and ad hoc reports to staff, management, elected officials, and the public on performance measures, resource utilization, and costs. Present reports and analytical results to departmental and City management, elected officials, and the public in a variety of formats, including formal reports, informal written communications (email), oral presentations, and geographic information system (GIS) displays.</p>
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<b>Competencies Required:</b>	
	<p><b>Human Collaboration Skills:</b> Decisions regarding interpretation of policies may be made. Contact may involve support of controversial positions or the negotiation of sensitive issues or important presentations. Contacts may involve stressful, negative interactions with the public requiring high levels of tact and the ability to respond to aggressive interpersonal interactions.</p>
	<p><b>Reading:</b> Advanced - Ability to read literature, books, reviews, scientific or technical journals, abstracts, financial reports, and/or legal documents. Ordinarily, such education is obtained at the college level or above. However, it may be obtained from experience and self-study.</p>
	<p><b>Math:</b> Advanced - Ability to apply fundamental concepts of theories, work with advanced mathematical operations methods, and functions of real and complex variables. Ordinarily, such education is obtained at the college level or above. However, it may be obtained from experience and self-study.</p>
	<p><b>Writing:</b> Advanced - Ability to write editorials, journals, speeches, manuals, or critiques. Ordinarily, such education is obtained at the college level or above. However, it may be obtained from experience and self-study.</p>

<b>Technical Skills Required:</b>	
	<p><b>Advanced Skills and Knowledge:</b> Work requires advanced skills and knowledge in approaches and systems, which affect the design and implementation of major programs and/or processes organization-wide. Independent judgment and decision-making abilities are necessary to apply technical skills effectively.</p>



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**Relevant Background and Formal Education:** Demonstrated skills, competencies, and knowledge required for this job are most often acquired through the following practical experience and level of academic education and training as suggested below.

Education: Bachelor’s degree from an accredited college or university with major coursework in operations research, mathematics, statistics, computer science, information systems, engineering, or a related field.

Experience: Five years of full-time responsible professional experience in operations research, mathematical modeling or complex statistical analysis; including one year of lead responsibility.

**Certifications and Licenses:** Must possess or be able to acquire the following certifications and/or licenses.

Certifications required in accordance with standards established by departmental policy.	
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**Supervision Exercised:**  
Work requires the occasional direction of helpers, assistants, seasonal employees, interns, or temporary employees.

**Supervision Received:**  
Receives General Direction: This job title normally performs the job by following established standard operating procedures and/or policies. There is a choice of the appropriate procedure or policy to apply to duties. Performance reviewed periodically.

**Fiscal Responsibility:**  
This job title has no budgetary responsibility.

**Physical Demands:**  
Exerting 20-50 lbs. occasionally; 10-25 lbs. frequently; or up to 10 lbs. constantly.



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<b>Environmental Conditions</b>	<b>Frequency</b>
Primary Work Environment	Office Environment
Extreme Temperature	Never
Wetness and Humidity	Never
Respiratory Hazards	Never
Noise and Vibrations	Never
Physical Hazards	Never
Mechanical and/or Electrical Hazards	Never
Exposure to Communicable Diseases	Never

**Machines, Tools, Equipment, and Work Aids:** Computer, printer, copier, telephone, and standard office equipment.

**Specialized Computer Equipment and Software:** Microsoft Office.

*The description above is intended to represent only the key areas of responsibilities; specific job assignments, duties, and environmental conditions will vary depending on the business need of the department and the particular assignment.*

Original Date: June 2015