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## SENIOR ANALYTICS AND EVALUATION ANALYST PRINCIPAL ANALYTICS AND EVALUATION ANALYST

### **BASIC FUNCTION**

Under general direction, drive district initiatives through a combination of data analysis and evaluation activities; design, analyze and execute District research and evaluation projects, perform advanced analytics, manipulate complex data and solve mathematical problems; provide meaningful data, assessments and reports that discover insights, identify opportunities, predict outcomes and make recommendations for use in a variety of district programs and reports.

### **REPRESENTATIVE DUTIES:**

*The classification specification does not describe all duties performed by all incumbents within the class. This summary provides examples of typical tasks performed in this classification.*

- Responsible for all aspects of assigned small-to-large scale data analysis, including query and report design, complex mathematical programming, data manipulations and identifying relationships and statistical correlations between multiple disparate data sources.
- Source and use appropriate data, statistical tests, procedures, software programs and technology to perform mathematical and statistical computations, disaggregate data, and develop customized reports, algorithms, programs, infographics and other data manipulations. “E”
- Use sophisticated statistical analysis including data mining techniques, to identify trends, patterns, risk and opportunities, evaluate past and/or predict future effectiveness, strengths and weaknesses of projects, programs and other district initiatives. “E”
- Organize data into user friendly formats, such as tabular, graphical or narrative representations for use in analysis, evaluation, presentations and proposals; develop, design, create and present a variety of comprehensive presentations and reports that synthesize and bring structure to large quantities of formless data in order to identify trends and predict outcomes; maintain and distribute reoccurring reports and respond to requests for a variety of ad-hoc data requests, queries and reports that have been elevated beyond the specialized expertise of System Planning and Performance analysts or evaluators. “E”
- Conduct quantitative and qualitative research and evaluations for a wide range of long and short term studies and monitor assigned projects; plan, coordinate and design analytical data projects; contribute to and/or lead the conceptualization and writing of small-to-large scale project reports and proposals. “E”
- Collaborate with colleagues and serve on cross-functional district teams to solve complex mathematical problems, improve data analysis, querying and reporting techniques and develop new data related tools, databases and reports to support effective data utilization and data based decisions; participate in, develop and revise processes, procedures, standards and guidelines related to data collection and integration; recommend and implement system enhancements and data solutions and assist with system testing and the implementation of patches, system updates, form revisions and software upgrades. “E”
- Conduct, consult on and/or support district departments and partners with complex specialized projects including mathematical problems, scenario mapping and predictive analytics; collaborate with project sponsors, stakeholders, outside agencies, university partners, steering committees and other stakeholders and obtain input from appropriate business, technical and academic staff to identify project objectives, translate needs into a project plan and ensure that findings and reports are completed on time and address agreed upon metrics; provide status updates and findings throughout projects, analysis or reporting cycle to key stakeholders. “E”

- Make presentations and recommendations based on findings and actionable insights to support district leaders and other key decision makers; provide accurate interpretation of findings, identify policy implications and options and make recommendations to advance data driven decision making. “E”
- Provide support, participate in, develop and present materials, trainings and other professional development opportunities to a wide variety of audiences including teachers, principals, district leadership and community stakeholders on a variety of data topics including, data literacy, analysis, reporting requirements, system use, interpretation of reports, recommendations, implications or outcomes of specific evaluation studies. “E”
- Work with and provide cross-training on an individual or group basis to colleagues related to techniques and requirements for a variety of processes and procedures such as data mining techniques, conducting math problems, developing algorithms, and deriving insights and findings from data. “E”
- Keep current on research design trends and best practices and statistical methodologies in education, psychology and social sciences; attend and participate in meetings, conferences, and seminars relevant to new developments in assessment, reporting requirements, compliance, data collection, analysis and distribution; lead, attend and participate in a variety of meetings, in-service trainings, workshops, conferences and seminars relevant to data analysis and reporting. “E”
- Adhere to and maintain compliance with laws and/or administrative requirements related to student confidentiality. “E”
- Demonstrate a commitment to the Portland Public Schools Equity Initiative by developing a thorough knowledge and application of the district Racial Educational Equity Policy, Equity in Public Purchasing and Contracting and other board policies; participate in staff development, in-services and trainings related to diversity, equity and inclusion in the workplace and in K – 12 education; model appropriate behaviors; develop, recommend and implement improvements to educational and business practices with awareness and understanding of their impact in a racially and culturally diverse community. “E”
- May serve in a lead capacity providing work direction or guidance to staff.
- May serve on District’s Institutional Review Board (IRB) to review and evaluate research proposals from internal staff and/or external researchers.
- Perform related duties as assigned.

*Note: At the end of some of the duty statements there is an italicized “E”, which identifies essential duties required of the classification. This is strictly for use in compliance with the Americans with Disabilities Act.*

### **DISTINGUISHING CHARACTERISTICS OF THE CLASS**

All classifications in this series are responsible for district-wide data analytics and represents a convergence of the distinct specialization of the System Planning and Performance Analyst classification and the Evaluator classification; employees analyze studies and data from multiple angles and scenarios, correlate and transform data into knowledge and provide models, visualizations, reports and summaries that support sound, data based, district decisions and priorities. All levels within this series perform advanced statistical and predictive modeling techniques, conduct complex data correlations, analysis and algorithm design and clearly communicate technical concepts including methods, findings, insights and recommendations to stakeholders and key district leaders. The levels are differentiated by the scope of work performed, the level of complexity, breadth and depth of data analysis, leadership over projects and staff and input into activities related to district leadership decisions making.

This classification series differs from other System Planning and Performance classifications by the focus on advanced analytics and the requirement to approach dissimilar and unrelated data from multiple angles; use complex mathematics, algorithms and statistics to discover patterns and insights, identify trends and opportunities, predict outcomes and communicate conclusions and recommendations.

The Senior Analytics and Evaluation Analyst classification is the first level in the series. Employees in this classification conduct complex data analysis and evaluation activities including statistical analysis, development of algorithms, data mining, modeling and visualization to address mathematical problems, predictive analytics and what-if scenarios; employees present models, visualizations, reports and recommendations and serve as a resource and subject matter expert in the field. Assignments at this level require a comprehensive knowledge of complex analytic and coding techniques, an understanding of advanced qualitative and quantitative research methods as well as an ability to communicate technical and abstract findings to a wide variety of audiences. The Senior Analytics and Evaluation Analyst participates in the mentoring, training and development of division staff and may serve in a lead role, providing work direction and guidance to staff.

The Principal Analytics and Evaluation Analyst is the senior-level classification in the series. Employees in this classification work with the most highly complex datasets to conduct prescriptive analytics and address mathematical problems that are escalated beyond the expertise of other System Planning and Performance staff. Assignments at this level use advanced research, programming, statistical and analytic methodologies and techniques to complete assignments. Employees work with division leaders to present findings and recommendations across the district and play a key role in guiding district driven decisions. The Principal Analytics and Evaluation Analyst represents the district at a variety of meetings or conferences related to assigned activities and may serve in a supervisory or lead capacity.

### **EMPLOYMENT STANDARDS:**

#### **Knowledge of:**

Database table development in software such as Synergy, PeopleSoft, SASI, ESIS, Microsoft Access, Excel, or similar software.

Advanced mathematical and analytical methods and techniques including data mining.

Microsoft Office Suite or similar, presentation, word processing, publishing and spreadsheet software.

Principles and techniques of educational research, program evaluation, educational measurement, evaluation and research.

Statistics and statistical packages for analyzing large datasets such as SPSS, SAS or similar processes.

Standard quantitative and qualitative analysis approaches and methodologies including survey design, thematic coding and statistical reporting.

Applicable local, state and federal laws, codes, rules and regulations.

Effective customer service skills, using tact, patience and courtesy.

Oral and written communication skills.

Data warehousing techniques and management.

Data visualization software such as Tableau or Crystal Reports, their applications and uses.

Programming languages for managing data held in a relational database management system such as visual basic or SQL and algorithm development.

Data collection and management techniques and best practices.

#### **Ability to:**

Load, extract, analyze and transform unstructured data from multiple disparate sources and synthesize data into useful formats; prepare, combine, manipulate and manage large amounts of data.

Use a variety of databases and student information systems; learn and use a variety of student and employee software systems.

Learn new and maintain current knowledge of programming languages, statistical and other data analysis and manipulation techniques and district software and systems including upgrades and usage.

Create software programs and probability models and develop algorithms to conduct predictive analytics, data mining and pattern recognition.

Access multiple complex data sets to perform statistical analyses and generate a variety of reports.

Advocate, model, learn and implement Portland Public School's Racial Equity Initiative.

Participate in, develop and provide user training to audiences with a broad range of data-literacy skills.

Read, understand and apply detailed information concerning district, state and federal data collection and reporting policies and procedures.

Prioritize work, meet schedules and timelines; work under pressure and tight deadlines.

Serve as resource and provide procedural assistance related to data literacy and reporting.

Present and communicate technical research, data concepts, insights, findings and procedures to a variety of audiences.

Ensure security of sensitive data.

Establish and maintain cooperative and effective working relationships with others.

### **Education, Training and Experience:**

The Senior Analytics and Evaluation Analyst classification requires a bachelor's degree in computer science, mathematics, business information, educational psychology, behavioral science or other related field *and* a minimum of three (3) years of experience working as a professional level Data Analyst or Evaluator with experience programming in multiple languages, working with highly complex data sets, using advanced mathematics and statistical methodologies, making recommendations and implementing data solutions, *or* two (2) years of

experience as a Systems Planning and Performance Analyst II or Evaluator II with Portland Public Schools and have demonstrated proficiency in the duties of counterpart System Planning and Performance Analyst or Evaluator teams is required.

A Master's degree in one of the identified disciplines is highly desirable and may substitute for two years of the required experience. A Doctorate in one of the identified disciplines may substitute for the required experience.

The Principal Analytics and Evaluation Analyst classification requires a Master's degree in computer science, mathematics, business information, educational psychology, behavioral science or other related field and a minimum of five (5) years of experience in analytics, such as data mining, identifying patterns and creating complex programs, manipulating highly complex data sets, using advanced mathematics and statistical methodologies, working individually and as a lead to resolve complex mathematical problems, make recommendations, implement data solutions and develop and present trainings.

Additional directly related, verifiable work experience may substitute for the Master's degree on a year-for-year basis. A Doctorate degree in one of the identified disciplines may substitute for two years of the required experience.

Experience working in a public K-12 school district or public agency serving and supporting a richly diverse community is highly desirable.

Any other combination of education, training and experience which demonstrates the candidate is likely to possess the skill, knowledge, ability and trait characteristics essential for this classification may be considered.

*Special Requirements:*

Some positions in these classifications require the use of a personal automobile and possession of a valid driver's license.

**WORKING CONDITIONS**

*The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Persons with certain disabilities may be capable of performing the essential duties of this class with or without reasonable accommodation, depending on the nature of the disability.*

**Work Environment:** Work is performed primarily in a standard office environment and on school campuses with public contact and frequent interruptions.

**Hazards:** None.

**Physical Demands:** Primary functions require sufficient physical ability and mobility to work in an office and school setting and to routinely drive to and from District facilities; dexterity of hands and fingers to operate a computer keyboard and office equipment; sitting, standing and walking for extended periods of time; occasional kneeling, bending at the waist; lifting, pushing, pulling and carrying office equipment, computers, laptops and peripheral equipment, supplies and materials weighing up to 10 pounds; repetitive hand movement and fine coordination to use a computer keyboard; hearing and speaking to exchange information in person and on the telephone; seeing to read, prepare and assure the accuracy of documents.

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FLSA: Exempt

Bargaining Unit: N/A

Salary Grade: Sr AEA-34; Principal AEA-42

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*Portland Public Schools recognizes the diversity and worth of all individuals and groups and their roles in society. The District is committed to equal opportunity and nondiscrimination in all its educational and employment activities. The District prohibits discrimination based on race; national or ethnic origin; color; sex; religion; age; sexual orientation; gender expression or identity; pregnancy; marital status; familial status; economic status or source of income; mental or physical disability or perceived disability; or military service.*

*Board of Education Policy 1.80.020-P*