



INFORMATION TECHNOLOGY BUSINESS SYSTEMS DEVELOPER ANALYST I, II & III

BASIC FUNCTION

Under general supervision, work with a variety of technologies and teams to develop metrics and protocols to support software development for district and end users; develop and design process-mapping strategies and tools to identify customer needs, translating them into technology development specifications; research and recommend off-the-shelf and custom build products that meet user needs; participate in and/or lead the design and implementation of test and inspection methods to identify defects and problems in software applications.

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.

- Collaborate with subject matter experts and project managers to establish the technical vision and analyze tradeoffs between usability and performance needs; serve as liaison between business units, technology teams and support teams; support colleagues in learning and sharing information and experiences regarding business software planning and development issues, problems, and concerns. "E"
- Perform a broad range of software or applications development duties, including technical coding design, interface design, create work breakdown structures (WBS), setting and system configuration and troubleshooting, for use with a variety of operating systems, platforms and devices. "E"
- Provide technical support and software development for a variety of integrated enterprise applications such as PeopleSoft or similar Enterprise Resource Planning (ERP) software, Team Collaboration Software tools, data warehousing and similar programs. "E"
- Design, code, test, and analyze software programs and applications, including research, design, document, upgrade and modify software specifications throughout production lifecycles; work with users to prototype, test, and validate the functionality of developed applications. "E"
- Participate in and support existing systems, applications, and databases by responding to user requests for service, enhancement, modification, customization or information and training; troubleshoot, diagnose, and repair bugs and malfunctions on production and/or in-house developed systems. "E"
- Assist in, develop and track project work plans; provide written and oral communications on projects' timelines, status, deadlines and completion; create and follow change control procedures and systems, review completed work and work in progress for functionality and advise administration on status of projects and any problems impeding completion. "E"
- Evaluate information gathered from multiple sources, reconcile differences, deconstruct high-level information into details, abstract up from low-level information to a general understanding, and distinguish user requests from underlying actual needs. "E"
- Develop and use modeling tools to document the current state of business processes as well as the desired future state; transfer knowledge of business implications to application/database developers and project managers for software development preparation. "E"
- Perform feasibility analysis, GAP analysis, scope projects, diagram business objectives, and build requirement diagrams. "E"
- Prioritize, translate, and understand current business initiatives, identifying the opportunities where technology or automation can add business value for stakeholders. "E"

- Test solutions for functionality, performance, reliability, stability and compatibility with legacy and / or external systems; review functional and design specifications to ensure full understanding of individual deliverables. Document and maintain functional test cases and other test artifacts like the test data, data validation, harness scripts and automated scripts. “E”
- Identify any potential quality issues per defined processes; isolate, replicate, and report defects and verify defect fixes; escalate potential quality issues to designated staff as directed. “E”
- Participate in evaluating a wide variety of technologies, computers, software and peripheral equipment for use in the District; provide recommendations concerning the purchase of new hardware, software and related equipment. “E”
- Maintain current knowledge of changes, upgrades, patches and perform upgrades for vendor supported packages systems; act as a point-of-contact between manufacturers and vendors of hardware, software and application products, district IT Support Representatives and other project stakeholders for support, maintenance, deployments and troubleshooting. “E”
- Maintain and develop professional skills through ongoing training and career development, including self-study, classroom training, and industry seminars and workshops; attend and participate in meetings, conferences, and seminars relevant to systems business applications development and quality assurance metrics. “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 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 business practices with awareness and understanding of their impact in a racially and culturally diverse community. “E”
- Collaborate with colleagues and on cross-functional district teams to participate in and coordinate the planning, implementation and maintenance of information technology software and systems throughout the district. “E”
- May provide work direction and guidance to assigned staff.
- 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

The Information Technology Business Systems Developer Analyst series provides analysis of district technology systems at a district wide level. Employees oversee the system development lifecycle from mapping out business needs and processes through the implementation of solutions, process and related testing of district software, databases and other application solutions to ensure the delivery of complete and effective software applications. Employees collaborate with development and analytic teams, end users, vendors, district staff and others.

All levels of this series are responsible for systems analysis, design, programming, testing, implementation, integration and maintenance of new and existing software systems. The developer analyst may specialize in a specific area such as data warehousing, integrated enterprise applications, ERP or non-ERP software, large or small scale use applications or may work in multiple areas of application development; all levels provide technical expertise and information regarding assigned functions. The levels are differentiated by the scope of work performed, the levels of complexity in developing/generating codes, programming and systems enhancements, leadership over processes, teams and/or staff, and participation on cross-functional teams related to systems functionality, integration and support. The I and II levels are also distinguished from the III level based on the focus on a particular aspect of developer analysis such as business process analysis, quality assurance, software development, initiation or implementation while the III level represents a convergence of all specializations and provides leadership over the full scope and life cycle of system analysis.

The Information Technology Business System Developer Analyst I is the primary level classification in the series. Employees in this classification learn to perform the full scope of a particular developer analysis function and develop skills and expertise to provide the full scope of work related to their area of specialization, including understanding of basic concepts essential for the development, testing, software deployment, and maintenance of systems. Employees are expected to develop overall expertise necessary to provide leadership in their assigned functional area and independently analyze and evaluate system functionality, processes and outcomes.

Upon successful completion of not less than two (2) years developing expertise in the full scope of the assigned functional area, ensuring the complete and effective development, modification and integration of the information technology projects, participation learning multiple platforms' systems and functionality, developing a variety of software applications, troubleshooting and problem-solving bugs, development and integration issues, employees in this classification who have gained sufficient knowledge of the broader scope of more complex elements of the professional level may advance, with the confirmation of duties and recommendation of department leadership, to the Information Technology Business Systems Developer Analyst II classification.

The Information Technology Business System Developer Analyst II is the professional level in the classification series. Employees perform the full scope of a specified functional area of a business system and gain familiarity with and participate in the full scope of development or business system analysis. Employees identify, deconstruct, implement, test, and maintain the needs of end users. This includes the evaluation and modification of systems to assure functionality and smooth integration of software across multiple platforms.

The Information Technology Business Systems Developer Analyst III series is responsible for the highest level of software development and business analysis with employees providing the full scope of business systems analysis and development. Employees participate in and hold responsibility for the seamless integration of the business needs and processes with application development and deployment systems involved in the development through-delivery of customized and off-the-shelf software systems essential for District programs technology needs. Employees may provide mentorship, guidance, and/or oversight to designated staff; projects tend to have high visibility and are managed with limited supervision. This classification series is distinguished from the IT Project Management classification series by the focus on workflow systems and quality assurance testing strategies and the requirement to map out processes for software development through live implementation.

The Business Systems Developer Analyst classification series differs from the Infrastructure Administrator and Enterprise Solution Administrator classification series' by its primary focus on the customization, coding and modification of open source and proprietary software, applications and programs. The Infrastructure Administrator and Enterprise Solution Administrator classification series' primary focus is on the configuration and maintenance of hardware, software and systems.

EMPLOYMENT STANDARDS:

Knowledge of:

Enterprise-wide requirements definition and management systems and methodologies. Databases, schemas, SQL scripts, and database queries.

A variety of programming languages, such as C#, CSS, SQL, Python, Javascript, Powershell their applications and uses; programming and script reading and writing.

Operation, capabilities and limitations of a variety of platforms, programming languages, relational databases, non-relational databases, distributed systems, and operating systems.

IT Business process functions and methodologies and work breakdown structures (WBS) fundamentals.

Application, database and software development, customization, design, methodologies and life cycle;

application development tools, and databases including ERP's, oracle systems and team collaboration software tools.

Web and application development frameworks and tools such as Visual Studio and SQL Server Management Studio and related programming language; open source and proprietary application development tools and principals.

The use of testing tools and methodologies; troubleshooting, debugging and error detection techniques. Strategic planning and project management methodology including Waterfall and Agile methodologies, specifically Scrum; methodologies for proactively leading technological advancements.

Data warehouse concepts, programming and methodology.

Productivity suites such as Microsoft Office or G-Suite.

Record keeping techniques; data modeling theory and methods.

Project management, scheduling, tracking and reporting techniques.

Effective team leadership and training techniques and methodology.

Software development lifecycle.

Analytical and product management skills, including a thorough understanding of how to interpret customer business needs and translate them into application and operational requirements.

Oral and written communication skills.

Applicable laws, codes, regulations, policies and procedures.

Effective customer service skills using tact, patience and courtesy.

Testing processes and methodologies including black and white box testing.

Ability to:

Understand and apply information technology systems workflow processes as well as relationships with other internal and external system databases.

Collaborate with customers to identify business needs and software solutions. Design logical system processes. Perform business analysis and understand functional and process needs of departments supporting.

Analyze, design, write, modify, develop, apply patches, and maintain applications, software, databases and related databases using standard web, software and application development tools.

Serve as technical lead on moderately complex systems and/or back up for large, complex systems.

Provide advice and mentor staff on applications development methods and standards or specific systems issues.

Create testing scripts and installation processes.

Troubleshoot, diagnose and problem solve application performance problems and software issues. Keep knowledge and skills current; learn and develop technical expertise with current, future, state-of-the-art software applications.

Think critically about a problem, approach from multiple perspectives and adopt an effective course of action.

Effectively lead technical programs, projects and teams. Set priorities, manage workflow and perform multiple complex and responsible activities, for multiple projects, concurrently with constantly changing priorities and deadlines.

Provide technical assistance to system users.

Advocate, model, learn and implement Portland Public School's Racial Equity Initiative. Communicate technical concepts and procedures to a variety of technical and non-technical audiences. Learn and develop expertise in identifying security concerns.

Communicate effectively both orally and in writing; develop user training documents and classes, and deliver formal and informal presentations; compile, write or revise system and programming documentation and user guides.

Work independently with little direction.

Establish and maintain cooperative and effective working relationships with others; provide work direction, guidance, assistance and leadership to staff for assigned projects.

Elicit requirements using interviews, document analysis, workshops, surveys, site visits, business process descriptions, use cases, scenarios, and business, task and workflow analyses.

Collaborate with project managers, end-users, and others to achieve design objectives.

Drive and challenge business units on their assumptions of how they will successfully execute their plans. Understand, interpret, and deconstruct technical concepts, rules, procedures, and policies into operational applications.

Serve as the conduit between customers and the software development teams.

Develop requirements' specifications, using language appropriate for non-technical end-users. Read and understand technical sketches, drawings and specifications.

Interpret, apply and explain rules, regulations, policies and procedures.

Ensure security of deliverables. Maintain a variety of records.

Meet schedules and timelines.

Learn District policies, procedures, and organizational structure.

Education and Training:

For all levels of this classification series is typically obtained through the completion of an Associate's degree in computer science, management information systems or closely related field and the following:

Experience:

The Information Technology Business Systems Developer Analyst I requires college coursework or demonstrated practical experience which demonstrates the ability to conduct analyses of business system requirements for implementation of information technology solutions in assigned functional area of software development or system analysis. Alternatively two (2) years of experience in application development/integration with focus in integration of commercial off-the-shelf (COTS) products.

The Information Technology Business Systems Developer Analyst II requires a minimum of three (3) years of experience conducting business system analyses such as assessment of business requirements and development for implementation of information technology solutions, including the breakdown of business processes into work units, development and integration on multiple platforms, creating information technology process workflow analyses and flowcharts or quality assurance system testing design; or two (2) years of experience as an Information Technology Business Systems Developer Analyst I with Portland Public Schools is required.

The Information Technology Business Systems Developer Analyst III requires a minimum of six (6) years of combined experience conducting technology business process analysis, developing and integration for multiple platforms, and implementing end-user quality assurance test plans for software acceptance across multiple platforms. (2) years must include leading large scale technical systems development and integration programs.

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

An Associate's degree and a minimum of two (2) years of experience conducting work in a specialized functional area of business system analysis such as technology development business analyses for the purpose of developing software or designing quality assurance testing may substitute for the Bachelor's degree.

A Bachelor's degree in one of the identified fields may substitute for a maximum of two (2) years of the required experience.

Additional directly related, verifiable work experience may substitute for the required degree on a year-for-year basis.

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.

Positions may occasionally require variable work hours including evenings and weekends.

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 with occasional visits to District sites.

Hazards: Hazards: Potential conflict situations.

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.

FLSA: Exempt

Bargaining Unit: N/A

Salary Grade: Bus Sys Dev Analyst I-29; App Dev II-35; App Dev III-39

Approval Date: September 7, 2018

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