

# THE CANADIAN SALARY SURVEYS

## THE IAT SURVEYS ® 2008



### THE TECHNICAL SURVEY POSITION SUMMARIES



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**THE TECHNICAL SURVEY POSITION SUMMARIES****JOB FAMILY****POSITION CODE****MANAGEMENT/PROJECT MANAGEMENT**

Information/Technical Systems Executive (Revised)	100
Engineering Executive (Revised)	105
Senior Project/Technical Director (Revised)	110
Project/Technical Director (Revised)	115
Senior Project/Department Manager (Revised)	120
Project Manager (Revised)	130
Team/Project Leader	140
Project Administrator	150

**TECHNOLOGY SOLUTIONS**

Technology Solutions Architect 3	210
Technology Solutions Architect 2	220
Technology Solutions Architect 1	230
Technology Solutions Analyst 3	235
Technology Solutions Analyst 2	240
Technology Solutions Analyst 1	250

**SYSTEMS DEVELOPMENT**

Systems Architect 3	310
Systems Architect 2	320
Systems Architect 1	330
Systems Analyst 3	335
Systems Analyst 2 (Programmer Analyst)	340
Systems Analyst 1 (Programmer)	350

**TECHNICAL SUPPORT**

Technical Support Manager	403
Technical Support 4	405
Technical Support 3	410
Technical Support 2	420
Technical Support 1	430
Systems Administrator 2	435
Systems Administrator 1	440

**SOFTWARE DEVELOPMENT**

Software Development Manager	505
Software Development Consultant	508
Software Developer 5	510
Software Developer 4	520
Software Developer 3	530
Software Developer 2	540
Software Developer 1	550

**SOFTWARE ENGINEERS**

Software Engineering Manager	605
Software Engineering Consultant	608
Software Engineer 5	610
Software Engineer 4	620
Software Engineer 3	630
Software Engineer 2	640
Software Engineer 1	650

**JOB FAMILY****POSITION CODE****HARDWARE ENGINEERS**

Hardware Engineering Manager	705
Hardware Engineering Consultant	708
Hardware Engineer 5	710
Hardware Engineer 4	720
Hardware Engineer 3	730
Hardware Engineer 2	740
Hardware Engineer 1	750
Reliability Engineer	760

**BUSINESS SOLUTIONS**

Business Solutions Manager	805
Business Development Consultant 2	810
Business Development Consultant 1	815
Business Solutions Architect 2	820
Business Solutions Architect 1	830
Business Analyst 3	840
Business Analyst 2	845
Business Analyst 1	847
Client Services Manager	848
Client Services Coordinator	850

**INTEGRATED SYSTEMS (ERP)**

Integrated Systems (ERP) Manager	905
ERP Configuration/Application 4	910
ERP Configuration/Application 3	915
ERP Configuration/Application 2	920
ERP Configuration/Application 1	930
ERP Software Development and Deployment 4	940
ERP Software Development and Deployment 3	945
ERP Software Development and Deployment 2	950
ERP Software Development and Deployment 1	960
Technical Writer 3	965
Technical Writer 2	970
Technical Writer 1	975
Technical Trainer 2	980
Technical Trainer 1	985

**NETWORKS**

Networks Infrastructure Manager	1005
Network Specialist 3	1010
Network Specialist 2	1015
Network Specialist 1	1020
Network Analyst 2	1030
Network Analyst 1	1040

**INTERNET/E-COMMERCE**

Web Applications Technical Manager	1110
E-commerce Systems Analyst 3	1111
E-commerce Systems Analyst 2	1112
E-commerce Systems Analyst 1	1113
Web Applications Architect 2	1120
Web Applications Architect 1	1121
Web Applications Developer 2	1122
Web Applications Developer 1	1123
Graphic User Interface Designer 3	1131
Graphic User Interface Designer 2	1132
Graphic User Interface Designer 1	1133
Web Master 2	1151
Web Master 1	1152
Internet Security and Systems Testing	1155

**JOB FAMILY****POSITION CODE****CAD DESIGN**

CAD Designer Manager	1205
CAD Designer Supervisor	1210
CAD Designer 3	1220
CAD Designer 2	1230
CAD Designer 1	1240
CAD Design Systems Specialist	1245
CAD Design Systems Analyst	1250

**CLIENT SUPPORT (Help Desk)**

Client Support Manager	1305
Help Desk Lead	1310
Help Desk Rep 2	1320
Help Desk Rep 1	1330
Client Support Lead	1340
Client Support Rep 3	1350
Client Support Rep 2	1360
Client Support Rep 1	1370

**COMPUTER OPERATIONS**

Computer Operations Manager	1405
Computer Operations Lead	1410
Computer Operator 3	1420
Computer Operator 2	1430
Computer Operator 1	1440
Operations Analyst 2	1445
Operations Analyst 1	1450

**DATABASE MANAGEMENT**

Database Manager	1505
Database Architect 2	1510
Database Architect 1	1520
Database Analyst 2	1530
Database Analyst 1	1540
Database Administrator 2	1545
Database Administrator 1	1550

**TECHNICAL SALES & SUPPORT (Pre-Post Sales)**

Regional Sales Manager	1605
Technical Sales Manager	1610
Technical Sales Rep 2 (Sr. Sales Representative)	1615
Technical Sales Rep 1 (Sales Representative)	1620
Business Development Representative (New)	1623
Applications Specialist 3	1625
Applications Specialist 2	1630
Applications Specialist 1	1640
Field Services Lead	1650
Field Services Technician	1660

**FIRMWARE (Embedded Software) ENGINEERS**

Firmware Engineering Manager	1705
Firmware Engineering Consultant	1708
Firmware Engineer 5	1710
Firmware Engineer 4	1720
Firmware Engineer 3	1730
Firmware Engineer 2	1740
Firmware Engineer 1	1750

**JOB FAMILY****POSITION CODE****TECHNOLOGISTS**

Technologist Lead	1805
Technologist 4	1810
Technologist 3	1820
Technologist 2	1830
Technologist 1	1840

**QUALITY ASSURANCE**

Quality Assurance Manager	1910
Quality Assurance Analyst 4	1915
Quality Assurance Analyst 3	1920
Quality Assurance Analyst 2	1930
Quality Assurance Analyst 1	1940
Release Manager	1950

**COMPUTER/HARDWARE SUPPORT**

Computer/Hardware Lead	2005
Computer/Hardware Technician 3	2010
Computer/Hardware Technician 2	2020
Computer/Hardware Technician 1	2030

**MULTI-MEDIA (New Media)**

Graphic Designer Lead	2102
Graphic Designer 3	2100
Graphic Designer 2	2105
Graphic Designer 1	2110
Art Director	2115
Creative Director	2120
Senior Animator	2122
Animator	2125
Senior Modeler (2D, or 3D)	2127
Modeler (2D, or 3D)	2128
Web Content Leader/Manager	2130
Web Content Developer 2	2135
Web Content Developer 1/Copywriter	2140
New Media Producer	2150

**TELECOMMUNICATIONS**

Telecommunications Manager	2203
Telecommunications Supervisor	2205
Telecommunications Technician 3	2210
Telecommunications Technician 2	2220
Telecommunications Technician 1	2230
Telecom Systems Engineer	2240

**CONTINUITY MANAGEMENT/DISASTER RECOVERY**

Director Business Continuity/Disaster Recovery	2305
Business Continuity/Disaster Recovery Project Manager	2325
Business Continuity/Disaster Recovery 2	2310
Business Continuity/Disaster Recovery 1	2320
Systems Disaster Recovery Analyst	2327
Information Security Manager	2328
Information Security Architect	2329
Information Security Analyst 2	2330
Information Security Analyst 1	2335

**JOB FAMILY****POSITION CODE****ENGINEERING - GENERAL**

Engineering Senior Management/Expert (Level F+)	2410
Engineering Manager (Level F)	2415
Engineer (Level E)	2420
Engineer (Level D)	2425
Engineer (Level C)	2430
Engineer (Level B)	2435
Engineer (Level A)	2440

**GEOMATICS**

GIS Manager (New)	2505
GIS Specialist	2510
GIS Developer	2515
Geomatics Technician 3 (New)	2517
Geomatics Technician 2	2518
Geomatics Technician 1	2520

**LAND SURVEYORS (NEW)**

Senior Project Manager (New)	2610
Senior Land Surveyor (Project Manager) (New)	2620
Land Surveyor 2 (New)	2630
Land Surveyor 1 (New)	2635
Party Chief 3 (New)	2640
Party Chief 2 (New)	2645
Party Chief 1 (New)	2648
Survey Assistant 2 (New)	2650
Survey Assistant 1 (New)	2655
Technical Office Manager (New)	2660
Field Operations Manager (New)	2670

**MANAGEMENT/PROJECT MANAGEMENT**

Responsible for managing a project or multiple projects to successful implementation, or the operation of an information systems group.

**INFORMATION/TECHNICAL SYSTEMS EXECUTIVE - POSITION CODE 100 (REVISED)**

Executive Level. Strategic level with overall responsibility for the management of information or technical systems across the organization. Duties may include:

- Directs the management and development of information or technical systems for the organization that could include technical computing and telecommunications.
- Determines the organization's long-term information technology requirements and identifies overall strategies for information and technical systems development and implementation across the organization.
- Acts as the primary interface with executive in determining overall information systems philosophy and approach with the organization.
- Strong communication and management skills.

Typically has post-secondary education in Business, IT or Engineering (or equivalent) with 15-20 years of industry experience, plus extensive management experience.

**ENGINEERING EXECUTIVE - POSITION CODE 105 (REVISED)**

Responsible for current and long-term process and project engineering activities throughout the organization.

Establishes the overall objectives and initiatives of the engineering department or operations. Typically reports to the President/CEO and is responsible for ensuring operating resources are efficiently managed and applied to meet strategic business plans. Duties may include:

- Plans and implement engineering strategies and activities.
- Manages and conducts engineering development and technical application programs to improve products and processes.
- Determines and establishes goals, scope, approaches, and budgets to accomplish overall objectives and goals.
- Provides on-going guidance, coaching, and feedback to direct reports.

Typically has Bachelors degree with 15 -20 years in engineering with a significant amount of experience in a management or leadership role.

**SENIOR PROJECT/TECHNICAL DIRECTOR - POSITION CODE 110 (REVISED)**

Working with executive level with overall responsibility for the management of major, organization wide, complex technology projects or depts. Management of environments and project processes. (Typically multi-million \$ budgets.)

Duties may include:

- Acts as primary interface with executive or senior management on broader, strategic issues, including planning and negotiation of services.
- Leadership of multiple teams of technical professionals, including managers of smaller projects or disciplines.
- Strong understanding of client organization and broader business issues.
- Familiar with a broad range of environments and processes.
- Strong communication and management skills.

Typically has post-secondary education in Business, IT or Engineering (or equivalent) with 15+ years industry experience. With extensive experience in management and/or project management.

**PROJECT/TECHNICAL DIRECTOR - POSITION CODE 115 (REVISED)**

Working with senior management level with overall responsibility for the management of organization-wide technology projects or departments (typically multi million\$ budget). Duties may include:

- Acts as primary interface with senior management on planning and negotiation and delivery of services.
- Leadership of several multiple teams of technical professionals, which could include managers of smaller projects or disciplines.
- Strong understanding of client organization and broader business issues.
- Familiar with a broad range of technologies, environments, and processes.
- Strong communication and management skills.

Typically has post-secondary education in Business, IT or Engineering (or equivalent) with 12+ years industry experience, and considerable years of project management experience.

**SENIOR PROJECT MANAGER/DEPARTMENT MANAGER - POSITION CODE 120 (REVISED)**

Direct responsibility for the specific delivery and management of large technology projects or department, (typically over \$1 million budget). Duties may include:

- Works closely with senior level client groups (typically management level) to understand business requirements and client expectations.
- Management of project process and resources, including budget and schedules from design and development through implementation; may also include enhancements to existing technical systems.
- Leadership of a large team of technical professionals often in cross-functional areas. (10 – 15 members)
- Familiar with a broad range of computer hardware/software, network capabilities, technologies, environments and processes.

Typically has post-secondary education in Business, IT or Engineering (or equivalent) with 10+ years industry experience, and several years of project management experience.

**PROJECT MANAGER/IT MANAGER - POSITION CODE 130 (REVISED)**

Responsible for the delivery and management of small to mid-sized technology application projects or department. On a larger project may be responsible for a sub-system and would report to an overall Project Director, (typically \$500k – \$1Million). Duties may include:

- Works closely with client groups, typically at the management level, to understand business requirements and client expectations.
- Management of project process and resources from design and development through implementation; may also include enhancements to existing application systems.
- Management of, scope, budget and schedule.
- Leadership of a team of technical professionals. (5 - 10 members)
- Familiar with a broad range of computer hardware/software, network capabilities, technologies, environments and processes.

Typically has post-secondary education in Business, IT or Engineering (or equivalent) with 8+ years industry experience, including some project management experience.

**TEAM/PROJECT LEADER - POSITION CODE 140**

Responsible for the delivery of small technology application projects or a small team of IT professionals, (typically <\$200k). Duties may include:

- Works closely with end-users to understand business requirements and issues.
- Management and delivery of project deliverables, which may include enhancements to existing application systems.
- Works with the project manager to determine budget. Tracking of budget and schedule.
- Leadership of a small team of technical professionals. (under 5 members)

Knowledge of a range of computer hardware/software, network capabilities, technologies, environments and processes. Typically has post-secondary education in Business, IT or Engineering (or equivalent) with 5+ years industry experience.

**PROJECT ADMINISTRATOR - POSITION CODE 150**

Responsible for the overall administration and organization of large projects. Duties may include:

- Maintaining and updating project documentation and system/documentation libraries.
- Collecting material, logging documents and distributing deliverables to appropriate staff.
- Tracking project change requests as they relate to the major deliverables.
- Maintaining and updating relevant project information in manual and/or electronic files. This includes project plans and activity schedules, project status reports, project correspondence, and recovery plan documentation.
- Assisting in the organization and preparation of presentation materials.

Typically has post-secondary education in Business Administration or related discipline, typically has related industry knowledge, and some related industry experience.

**TECHNOLOGY SOLUTIONS**

Provides technical solutions to clients ranging from environmental support to designing technology architecture that may include a variety of technologies such as networks, telecommunications, internet, client/server, distributed, ERP architectures.

**TECHNOLOGY SOLUTIONS ARCHITECT 3 - POSITION CODE 210**

Expert Level. Provides high-level technical expertise in recommending and implementing technical solutions employing a variety of technology to support complex business needs. Duties may include:

- Develops technical solutions employing technology in new or innovative ways that may be on the frontiers of technology, (e.g. networks, hardware interfaces, telecommunications, database technology, Internet, client/server, distributed architectures).
- Determines the tools, operating environments, programming standards and methodologies for very large, complex projects.
- May manage project of significant technical complexity.

Has a very broad knowledge/understanding of IT resources and enabling technologies or is recognized as a specialist in one or more areas. Typically has post-secondary education in Business or Information Technology (or equivalent) with 12+ years industry experience.

**TECHNOLOGY SOLUTIONS ARCHITECT 2 - POSITION CODE 220**

Specialist Level. Provides technical expertise in recommending and implementing technical solutions employing technology to support complex business needs. Duties may include:

- Develops project plans, schedules, and estimates of moderate complexity, employing project management capabilities.
- Determines the tools, operating environments, programming standards and methodologies for complex projects.
- Develops technical solutions and writes reports for projects employing complex technologies.

Has a broad knowledge/understanding of IT resources enabling technologies and has successfully applied solutions with more than one resource and enabling technology. Has in-depth knowledge in one or more areas, (e.g. networks, hardware interfaces, telecommunications, database technology, Internet), with 10+ years industry experience.

**TECHNOLOGY SOLUTIONS ARCHITECT 1 - POSITION CODE 230**

Senior Level. Provides technical expertise in recommending and implementing technical solutions employing technology to support business needs. Duties may include:

- Designs, develops and implements technical solutions and provides direction on technical matters, trouble shooting and optimization recommendations within areas of expertise.
- Determines the tools, operating environments, programming standards and methodologies for complex projects.
- Works under some supervision but manages and schedules own time within an overall plan.

Is competent in the understanding and usage of IT resources enabling technologies and is developing specialized expertise in one or more areas of technology (e.g. networks, hardware interfaces, telecommunications, database technology, Internet). Typically has post-secondary education in Business or Information Technology (or equivalent) with 7+ years industry experience.

**TECHNOLOGY SOLUTIONS ANALYST 3 - POSITION CODE 235**

Fully Competent Level. Knows and can effectively use/support various products within several IT resources or enabling technology. Duties may include:

- Contributes to the design of technical solutions to support business needs (within that, IT resource or enabling technology) and provides troubleshooting and optimization for technical problems within several areas.
- Develops and implements technical solutions under general supervision, prepares accurate estimates for tasks.
- Works on medium-sized assignments of moderate complexity.
- Beginning to broaden knowledge base to cover more IT resources and enabling technologies.
- May provide direction for more junior staff.

Familiar with the methodologies and techniques of technical development, implementation and/or operational management, with 4 - 6 years industry experience.

**TECHNOLOGY SOLUTIONS ANALYST 2 - POSITION CODE 240**

Intermediate Level. Knows and can effectively use/support various products within a single IT resource or enabling technology. Duties may include:

- Contributes to the design of technical solutions to support business needs (within that IT resource or enabling technology) and provides a basic level of troubleshooting and optimization for technical problems within an area.
- Develops and implements technical solutions under general supervision, prepares accurate estimates for tasks.
- Works on small to medium-sized assignments of low to moderate complexity.
- Beginning to broaden knowledge-base to cover more IT resources and enabling technologies.

Familiar with the methodologies and techniques of technical development, implementation, and/or operational management with 2 - 3 years industry experience.

**TECHNOLOGY SOLUTIONS ANALYST 1 - POSITION CODE 250**

Developmental Level. Supports the day-to-day operation of a particular IT resource or enabling technology. Duties may include:

- Identifies and provides solutions to basic operational problems.
- Knows and can effectively install, test and use at least one product within the IT resource or enabling technology.
- Works under the direction and coaching of a more senior IT staff member, generally at a task level.

Has basic knowledge/understanding of IT resources and methodologies with 1- 2 years industry experience.

**SYSTEMS DEVELOPMENT**

**Involved in all phases of the analysis, development, integration and/or implementation of information systems.**

**SYSTEMS ARCHITECT 3 - POSITION CODE 310**

Expert Level. Provides high level technical expertise in the development of the architecture in very large or advanced systems development projects including systems analysis, design, program development and implementation of integrated systems solutions for computer applications. Duties may include:

- Consults with client group to determine computer application delivery and service requirements and conduct systems analysis.
- Develops plans, estimates and methodology and procedures for computer applications development or integration projects.
- Ensures the migration of application software infrastructure to the target environment.
- Leadership of a team of information technology professionals, in very large complex projects or several smaller projects involving systems analysis and programming.
- Provides release support for new releases or versions of software.

Has a very broad knowledge/understanding of IT resources and methodologies or is recognized as a specialist in one or more particular application areas typically with 12+ years industry experience.

**SYSTEMS ARCHITECT 2 - POSITION CODE 320**

Specialist Level. Provides technical expertise in the development of the architecture in large or complex systems development projects or several smaller projects. These may include systems analysis, design, program development and implementation of integrated systems solutions for computer applications. Duties may include:

- Consults with client (senior management levels) to determine computer application delivery and service requirements, and conduct systems analysis.
- Develops plans, estimates and methodology and procedures for computer applications development or integration projects.
- Ensures the migration of application software infrastructure to the target environment.
- May be responsible for the maintenance and enhancement of existing operational application systems, providing either technical or application-specific expertise/knowledge.
- May provide leadership to a team of information technology professionals.
- Provides release support for new releases or versions of software.

Has broad knowledge/understanding of IT resources and methodologies or is recognized as a specialist in one or more particular application areas with 10+ years industry experience.

**SYSTEMS ARCHITECT 1 - POSITION CODE 330**

Senior Level. Provides technical expertise in the development of the architecture in large systems development projects including systems analysis, design, program development and implementation of integrated systems solutions for computer applications. Duties may include:

- Defines standards and reviews systems documentation.
- Develops plans, estimates, and methodology and procedures for computer applications development and integration projects.
- Works under minimal supervision and manages and schedules own time within an overall plan and may manage small projects.
- May provide in-depth technical expertise for an application solution for particular current or legacy application.
- Provides release support for new releases or versions of software.

Has sound knowledge/understanding of IT resources and methodologies or has in-depth knowledge in one or more particular application areas, with 7+ years industry experience.

**SYSTEMS ANALYST 3 - POSITION CODE 335**

Fully Competent Level. Responsible for analysis of user requirements and design of medium-sized systems. Duties may include:

- Performs detailed analysis and design for systems conversions and migrations.
- Directly responsible for the design, coding and testing of very complex programs to support specific business solutions and conversions.
- Maintains database documentation and models.
- May participate in the defining of the architecture for large projects, under the guidance of a systems architect.
- May provide direction for more junior staff.
- Provides release support for new releases or versions of software.

Has knowledge/understanding of IT resources and methodologies and is developing specialized knowledge in one or more particular application areas, with 4 - 6 years related experience.

**SYSTEMS ANALYST 2 (Programmer Analyst) - POSITION CODE 340**

Intermediate Level. Responsible for design and implementation of medium-sized systems. Duties may include:

- Assists in the detailed analysis and design for systems conversions and migrations.
- Working with defined design, develops detailed specifications for software programming applications, prepare codes, tests and debugs programs and maintains and documents programs in accordance with standards.
- Involved in the maintenance and enhancement of existing operational application systems, working under moderate supervision.
- Capable of working on most phases of programming activities, with guidance for the most complex components.
- May assist in release support for new releases or versions of software.

Methodologies, with 2 -3 years related experience.

**SYSTEMS ANALYST 1 (Programmer) - POSITION CODE 350**

Developmental Level. Has primary responsibility for coding and testing of programs. Over time, may participate in the analysis and design phases of small projects. Works under close supervision and coaching. Duties may include:

- Prepares detailed flowcharts, codes, tests and debugs programs and maintains and documents programs.
- May be involved in the maintenance and enhancement of existing operational application systems.
- May participate in the analysis and design of small to medium-sized change requests.

Has basic knowledge/understanding of IT resources and methodologies with particular focus on programming and testing methodologies, with limited industry experience.

**TECHNICAL SUPPORT**

Involved in support of client/servers, application systems, troubleshooting, enhancements, and maintenance.

**TECHNICAL SUPPORT MANAGER - POSITION CODE 403**

Responsible for the overall supervision of the Technical Support team, and has a solid understanding of the company's servers and applications. Duties may include:

- Manages the planning, support maintenance and troubleshooting of various systems.
- Develops, maintains, and communicates project plans, budgets and schedules, and prioritizes requirements.
- Provides technical guidance and leadership for all applications and client/servers.
- Responsible for managing the team, including budgets, staffing issues, and resource allocation.
- Responsible for deliverables and productivity from the team.
- May lead multiple project teams.

Typically has post-secondary education in Business or Information Technology with 10+ years industry experience. Has expert knowledge of critical business factors and how they relate to technology.

**TECHNICAL SUPPORT 4 - POSITION CODE 405**

Expert Level. Provides top-level trouble shooting to resolve the most complex technical systems problems. Duties may include:

- Troubleshoots the most complex problems and takes appropriate urgent actions.
- Applies advanced knowledge and experience in the planning, solution development and implementation of distributed computing service, client server services and/or wireless services.
- Responsible for ensuring on-going maintenance and monitoring system quality assurance.
- May provide direction for more junior technical support staff.

Requires extensive knowledge in several of the following: IT operating platforms, hardware interfaces and applications with 6+ years industry experience with networking and operating environments such as UNIX, ORACLE, NT, VMS, LINUX, Solaris.

**TECHNICAL SUPPORT 3 - POSITION CODE 410**

Senior Level. Provides third level trouble shooting to resolve the complex technical systems problems. Duties may include:

- Troubleshoots complex problems and takes appropriate urgent actions.
- Applies well-developed knowledge and experience in the planning, solution development and implementation of distributed computing service or client server services and/or wireless services.
- Responsible for ensuring on-going maintenance and monitoring system quality assurance.

Requires extensive knowledge in several of the following: IT operating platforms, hardware interfaces and applications with 6+ years industry experience with networking and operating environments such as UNIX, ORACLE, NT, VMS, LINUX, SOLARIS.

**TECHNICAL SUPPORT 2 - POSITION CODE 420**

Fully Competent Level. Providing second level technical support on operating systems, network protocols and specific application packages in response to end-user requests. Duties may include:

- Knows and can effectively use/support various products within a single IT resource or enabling technology.
- Provides troubleshooting and optimization for technical problems within an area.
- Develops and implements technical solutions under general supervision.

Requires in-depth technical knowledge of major operating systems, strong communications skills and 3 - 5 years of experience with networking and operating environments such as UNIX, ORACLE, NT, VMS, LINUX, SOLARIS.

**TECHNICAL SUPPORT 1 - POSITION CODE 430**

Developmental Level. Provide first level technical support to user application problem. Duties may include:

- Knowledge of data flows, and the ability to recognize incomplete data, software anomalies and hardware malfunctions.
- Identifies and provides solutions to basic operational problems.
- Knows and can effectively install, test and use at least one product within the IT resource or enabling technology.
- Effective communication skills are essential.

Has basic knowledge/understanding of IT resources and methodologies with 1 - 2 years industry experience.

**SYSTEMS ADMINISTRATOR 2 - POSITION CODE 435**

Senior Level, typically in a larger organization. Installs, configures and maintains large, complex client/servers (UNIX, MS, NT, Novell) in support of business requirements. Perform software installations and upgrades to network operating systems. Schedule installations, upgrades and maintenance. Duties may include:

- Management of the system with respect to tuning, performance monitoring, capacity planning, space management and reorganization and quality assurance.
- Responsible for systems security, passwords, maintenance of standards and operating procedures and work process procedures.

Requires specialized and/or in-depth technical knowledge of major operating systems, strong communications skills and minimum 4 - 5 years of experience with networking and operating environments such as UNIX, ORACLE, NT, VMS, LINUX, SOLARUS.

**SYSTEMS ADMINISTRATOR 1 - POSITION CODE 440**

Intermediate Level. Installs, configures and maintains client/servers (UNIX, MS, NT, Novell) in support of business requirements. Perform software installations and upgrades to network operating systems. Schedule installations, upgrades and maintenance. Duties may include:

- Management of the system with respect to tuning, performance monitoring, capacity planning, space management and reorganization and quality assurance.
- Responsible for systems security, passwords, maintenance of standards and operating procedures and work process procedures.

Requires in-depth technical knowledge of major operating systems, strong communications skills and 2 - 3 years of experience with networking and operating environments such as UNIX, ORACLE, NT, VMS, LINUX, SOLARUS.

**SOFTWARE DEVELOPMENT**

Software development of business applications typically employing object-oriented methodologies, using programming languages such as Sybase, SQL, Visual Basic, C/C++, PowerBuilder, ORACLE, ACCESS, and operating platforms such as Windows, Windows NT or Unix. Includes web-based applications.

**SOFTWARE DEVELOPMENT MANAGER - POSITION CODE 505**

Management Level. Manages software development of one or more business application product lines. Duties may include:

- Project planning, scheduling and tracking.
- Working with customers to gather requirements.
- Resource planning, managing the development of the team.
- Responsible for deliverables from the team and accountability for team productivity.
- Responsible for the employment, training, and discipline of assigned employees.
- Leadership of multiple project teams of software developers, who could include project managers of smaller projects.
- Strong communication and management skills.

Typically has Bachelor degree, with a broad range of software application development experience of increasingly complex technical assignments plus 5+ years leadership experience.

**SOFTWARE DEVELOPMENT CONSULTANT - POSITION CODE 508**

Expert Level. Provides high-level technical expertise for very complex and ground-breaking software development.

Duties may include:

- Project planning, scheduling and tracking.
- May provide mentoring and coaching to other technical employees.
- Development of highly innovative solutions and applications that maybe on the frontier of technology in their discipline.
- Development of overall project design plan, procedures & development tools & resources.

Typically has Bachelor degree, with 10+ years experience of increasingly complex technical assignments. Specialist skills in several complex programming languages and methodologies, .

**SOFTWARE DEVELOPER 5 - POSITION CODE 510**

Specialist Level. Provides technical expertise in recommending and implementing technical solutions employing technology to support complex business or technical needs. Duties may include:

- Directly responsible for designing, coding and testing of very complex programs, for a variety of platforms, (e.g. NT, UNIX), using high-level programming languages, and processes (e.g. Artificial Intelligence).
- Develops project plans, schedules and estimates for design and programming of major complexity.
- May participate in the defining of the architecture for large projects, under the guidance of a systems architect.
- Responsible for quality assurance of program design and development.
- Works under minimal supervision and manages and schedules own time within an overall plan.
- May provide direction for more junior staff.

Has a broad knowledge/understanding of IT resources and enabling technologies or has in-depth knowledge in one or more areas, with 8+ years industry experience.

**SOFTWARE DEVELOPER 4 - POSITION CODE 520**

Senior Level. Under general direction, provides technical consulting in specific area of software expertise. Duties may include:

- Directly responsible for designing, coding, and testing of complex programs, for a variety of platforms, (e.g. NT, UNIX), and processes, (e.g. Artificial Intelligence).
- Responsible for quality assurance of program design and development.
- Develops project plans, schedules and estimates for design and programming of moderate complexity.
- Capable of work at high technical level on all phases of software, analysis and programming.

Typically has post-secondary education with 5 - 7 years of industry experience.

**SOFTWARE DEVELOPER 3 - POSITION CODE 530**

Fully Competent Level. Develops customized software for specific applications. Duties may include:

- Develops specifications for all but the most complex software programming applications, using languages such as C, C++, C#, Java, VB.NET, PowerBuilder, 3GL, Sybase, SQL, GUI, or Artificial Intelligence processes.
- Designs codes, tests and debugs complex software programs.
- Maintains and documents programs in accordance with standards policies and work processes.
- Capable of working on most phases of software analysis and programming.

Competent in several programming languages and environments, typically has post-secondary education in Business or Information Technology (or equivalent) with 3 - 5 years industry experience.

**SOFTWARE DEVELOPER 2 - POSITION CODE 540**

Intermediate Level. Develops customized software for specific applications. Capable of working on several phases of software programming, but requires guidance for more complex phases. Duties may include:

- Develops and upgrades software for specific applications, using languages such as C, C++, C#, Java, VB.NET PowerBuilder, Sybase, SQL.
- Maintains and documents programs in accordance with standards, policies and work processes.
- Capable of working on most phases of programming activities, with guidance for the more complex components.

Has knowledge/understanding of IT resources and methodologies with particular focus on software development, programming and testing methodologies with post-secondary education in Business or Information Technology (or equivalent) and 2 - 3 years industry experience.

**SOFTWARE DEVELOPER 1 - POSITION CODE 550**

Developmental Level. Develops customized software for specific applications. Works under close supervision and coaching. Works with defined design, assists in developing detailed specifications for software programming applications using languages such as C, C++, C#, Java, VB.NET, PowerBuilder, Visual Basic, SQL. Duties may include:

- Designs, codes, tests and debugs programs, under guidance of more senior IT staff.
- Maintains and documents programs in accordance with standards, policies and work processes

Typically has post-secondary education in Business or Information Technology (or equivalent) with limited experience.

**SOFTWARE ENGINEERS**

Scientific software development of engineering-based applications primarily for telecommunications, control systems, (e.g. SCADA, GPS, GIS) or other engineering or technical applications. May include the use of object-oriented methodologies, and advanced simulation technology.

**SOFTWARE ENGINEERING MANAGER - POSITION CODE 605 (LEVEL F)**

Manages software engineers, which may include employees and contractors. Duties may include:

- Project planning, scheduling and tracking.
- Working with customers to gather requirements.
- Resource planning, managing the development of the team.
- Responsible for deliverables from the team and accountability for team productivity.
- Responsible for the employment, training, and discipline of assigned employees.
- Leadership of multiple project teams of technical professionals, who could include project managers of smaller projects.
- Strong communication and management skills.

Typically has Bachelor degree in Engineering, with broad engineering experience of increasingly complex technical assignments in developing control or telecommunications applications and 5+ years leadership experience.

**SOFTWARE ENGINEERING CONSULTANT - POSITION CODE 608 (LEVEL F)**

Expert Level. Provides high-level technical expertise for very complex and ground-breaking software applications.

Duties may include:

- Project planning, scheduling and tracking.
- May provide mentoring and coaching to other technical employees.
- Development of highly innovative solutions and applications that maybe on the frontier of technology in their discipline.
- Development of overall project design plan, procedures & development tools & resources.

Typically has Bachelor degree in Engineering, with broad engineering experience of increasingly complex technical assignments in developing control or telecommunications applications.

**SOFTWARE ENGINEER 5 - POSITION CODE 610 (LEVEL E)**

Specialist Level. Expert in one or more specialty areas in the development of customized software for specific applications. Duties may include:

- Responsible for the technical integrity of major software development projects, often responsible for the management of resources for these projects and technical leadership.
- Develops project plans, schedules, and estimates for functional design & programming for complex projects.
- Directly responsible for designing, coding and testing of very complex programs, for a variety of platforms, (e.g. NT, UNIX), using high level programming languages.
- May participate in the defining of the architecture for large projects, working with a systems architect.
- Responsible for quality assurance of program design and development and documentation.

Requires a degree in Engineering with minimum 10 - 12 years industry experience, typically with a specialty area such as relational databases, advanced simulation software.

**SOFTWARE ENGINEER 4 - POSITION CODE 620 (LEVEL D)**

Senior Level. Under general direction, provides technical consulting in specific area of software expertise. Duties may include:

- Directly responsible for designing, coding and testing of very complex programs, for a variety of platforms, (e.g. NT, UNIX).
- Prepares estimates for functional design and programming tasks.
- Responsible for documentation and quality assurance of program design and development.
- Works independently performing in-depth analysis, interpretation & recommendation of technical solutions.

Requires a degree in Engineering with minimum 7 - 8 years industry experience, typically with a specialty area such as relational databases, advanced simulation software, and experience in developing control or telecommunication applications.

**SOFTWARE ENGINEER 3 - POSITION CODE 630 (LEVEL C)**

Fully Competent Level. Works with defined design, develops detailed specifications for software programming applications. Duties may include:

- Designs, codes, tests & debugs programs, maintains & documents programs according to standards.
- Undertakes difficult design and modification problems.
- May provide work guidance to more junior technical staff within the scope of a specific project.

Requires a degree in Engineering with particular focus on software development, programming and testing methodologies, with minimum 5 - 6 years industry experience in developing control or telecommunication applications.

**SOFTWARE ENGINEER 2 - POSITION CODE 640 (LEVEL B)**

Intermediate Level. Design and develop or design modification of customized software for specific engineering applications. Develops detailed specifications, using a variety of standard engineering methods and techniques and software programming applications using languages such as C, C++, Visual Basic, VBScript, . . . Duties may include:

- Works in the design and testing of a component of a larger design project.
- Performs laboratory tests and analysis according to established standards.
- Responsible for routine technical decisions within established guidelines.

Requires a degree in Engineering with particular focus on software development, programming and testing methodologies, with minimum 2 - 3 years industry experience, and knowledge of control or telecommunication applications.

**SOFTWARE ENGINEER 1 - POSITION CODE 650 (LEVEL A)**

Developmental Level. Develops customized software for specific engineering applications. Works under close supervision and coaching. Works with defined design, assists in developing detailed specifications for software programming applications, using standard engineering methods and techniques and software programming application languages such as C, C++, Visual Basic, VBScript . . . Duties may include:

- Designs, codes, tests and debugs programs, under guidance of more senior IT staff.
- Maintains and documents programs in accordance with standards.
- Responsible for routine technical decisions within clearly defined procedures or precedents.

Requires a degree in Engineering with particular focus on software development, programming and testing methodologies, with limited industry experience.

**HARDWARE ENGINEERS**

Definition, design, testing, and fabrication documentation of advanced technology hardware products, (i.e. circuitry or control systems typically for the telecommunications, avionics or energy sectors, GPS, PCB, RF products, VLSI development). Determines manufacturing specifications and interface with software, other products.

**HARDWARE ENGINEERING MANAGER - POSITION CODE 705 (LEVEL F)**

Manage hardware engineers, which may include employees and contractors. Duties may include:

- Project planning, scheduling and tracking.
- Working with customers to gather requirements.
- Resource planning, managing the team.
- Responsible for deliverables from the team and accountability for team productivity.
- Responsible for the employment, training, and discipline of assigned employees.
- Leadership of multiple project teams of technical professionals, who could include project managers of smaller projects.
- Strong communication and management skills.

Typically has degree in Engineering, with broad engineering experience, highly competent in a variety of specialty areas such as RF Engineering, digital design, OCB, etc.; 5+ years leadership experience.

**HARDWARE ENGINEERING CONSULTANT - POSITION CODE 708 (LEVEL F)**

Expert Level. Provides high-level technical expertise for the design and development of new innovative engineering approaches and products. Duties may include:

- Project planning, scheduling and tracking.
- Working independently, researches designs, and develops state of the art hardware products.
- May develop groundbreaking prototypes of components and devises.
- Researches and defines innovative solutions to the most complex and technically challenging hardware issues.
- Is generally recognized as a leader in his/her technical specialty.
- May provide mentoring and coaching to other technical employees.

Typically has Bachelor degree in Engineering, with broad engineering experience, highly competent in a variety of specialty areas such as RF Engineering, digital design, OCB, etc.

**HARDWARE ENGINEER 5 - POSITION CODE 710 (LEVEL E)**

Specialist Level. Under general supervision to devise new or innovative engineering approaches and techniques in the design and development of complex, advanced technology hardware development projects. Duties may include:

- Responsible for the technical integrity of major hardware development projects, often responsible for the management of resources for these projects.
- Responsible for quality assurance of program design and development.
- Works independently in performing in-depth analysis, interpretation and recommendation of technical solutions for the most complex technical problems.
- Develops project plans, schedules and estimates of moderate complexity, employing project management capabilities.
- May provide technical leadership for more junior staff.

Requires a degree in Engineering with minimum 10 - 12 years industry experience, typically with a recognized competence in one or more specialty area, such as RF Engineering, digital design, PCB, etc.

**HARDWARE ENGINEER 4 - POSITION CODE 720 (LEVEL D)**

Senior Level. Design and development of advanced technology hardware products that requires the development of new engineering approaches or applying existing techniques in new ways. Duties may include:

- Undertakes difficult design and modification projects, often responsible for managing the resources for a small project team.
- Works independently in performing in-depth analysis, interpretation and recommendation of technical solutions.
- Works independently in performing analysis and the interpretation of results.
- Provides technical guidance and advice to other project team members.

Requires a degree in Engineering with minimum 7 - 8 years industry experience, typically with a specialty area such as RF Engineering, digital design, PCB, etc.

**HARDWARE ENGINEER 3 - POSITION CODE 730 (LEVEL C)**

Fully Competent Level. Design and development of advanced technology hardware products, requiring familiarity with a broad range of engineering methods and techniques. Duties may include:

- Undertakes difficult design and modification problems.
- Works independently in performing in analysis and the interpretation of results.

May provide work guidance to more junior technical staff within the scope of a specific project.

Requires a degree in Engineering with minimum 5 - 6 years related industry experience.

**HARDWARE ENGINEER 2 - POSITION CODE 740 (LEVEL B)**

Intermediate Level. Design and development or design modification of advanced technology hardware products, using a variety of standard engineering methods and techniques. Duties may include:

- Works in the design and testing of a component of a larger design project.
- Performs laboratory tests and analysis according to established standards.
- Responsible for routine technical decisions within established guidelines.

Requires a degree in Engineering with minimum 2 - 3 years related industry experience.

**HARDWARE ENGINEER 1 - POSITION CODE 750 (LEVEL A)**

Developmental Level. Design and development or design modification of advanced technology hardware products.

Duties may include:

- Preparation of simple designs, calculations and design specifications.
- Performs laboratory tests and analysis.
- Responsible for routine technical decisions within clearly defined procedures or precedents.

Requires a degree in Engineering with limited industry experience.

**RELIABILITY ENGINEER - POSITION CODE 760**

Fully Competent. Write plans, conduct analysis and perform calculations in support of advanced technology hardware programs. Duties may include:

- Reliability calculation (part count and part stress) of various methodologies for electronic assembly.
- Failure Modes Effects Analysis (FMEA) and criticality analysis (FMECA) for assemblies and ASICs. Supporting tasks for System Safety Analysis including hazard list creation.
- Selection, qualification and approval of electronic components.

Requires a degree in Engineering with 3 - 5 years experience as a Reliability Engineer for electronic products. Hands on experience with computer-based analysis tools. Knowledge of associated commercial and military standards. Very good interpersonal skills and ability to document processes.

**BUSINESS SOLUTIONS**

**Facilitates analysis and integration of technical and business processes for organizations to identify develop and implement effective business solutions to achieve their desired future. This could include the implementation of packaged products as well as needs assessment and implementation planning for outsourced services. May develop new business opportunities.**

**BUSINESS SOLUTIONS MANAGER - POSITION CODE 805**

Management Level. Responsible for the effective management of business consulting or analysis group (for either internal or external clients). Consults with client organizations to identify new business opportunities for company products and services. Duties may include:

- Developing strategic business plans and marketing strategies.
- Developing strategic alliances with other organizations.
- Identifying technology service and product needs of current and potential clients.
- Resource planning, managing the team.
- Responsible for deliverables from the team and accountability for team productivity.
- Responsible for the employment, training, and discipline of assigned employees.
- Maintains on-going client relationships, networks, identify potential clients & business opportunities.
- Develops and delivers executive presentations requiring excellent communication & marketing skills.

Has a broad knowledge of business issues and processes such as Strategic Planning and Marketing as well as IT resources and enabling technologies. Typically has post-secondary education in Business or Information Technology (or equivalent) with 12+ years related experience in addition to leadership experience.

**BUSINESS DEVELOPMENT CONSULTANT 2 - POSITION CODE 810**

Expert Level. Consults with client organizations to identify new business opportunities for company products and services. Duties may include:

- Developing strategic alliances with other organizations.
- Identifying technology service and product needs of current and potential clients.
- Presents product and service information and quotes to clients.
- Maintains on-going client relationships, networks, identify potential clients & business opportunities.
- Identifies new product or services for development.
- Develops and delivers executive presentations requiring excellent communication & marketing skills.

Has a broad knowledge of business issues and processes such as Strategic Planning and Marketing as well as IT resources and enabling technologies. Typically has post-secondary education in Business or Information Technology (or equivalent) with 10+ years related experience.

**BUSINESS DEVELOPMENT CONSULTANT 1- POSITION CODE 815**

Senior Level. Consults with client organizations to identify new business opportunities for company products and services. Duties may include:

- Identifying technology service and product needs of current and potential clients.
- Presents product and service information and quotes to clients.
- Maintains on-going client relationships, networks, identify potential clients & business opportunities.
- Identifies new product or services for development.
- Develops and delivers specialized presentations requiring excellent communication & marketing skills.
- Develops project proposals and coordinates project budget estimates.

Has a broad knowledge of business issues and processes such as Business Strategies and Marketing as well as IT resources and enabling technologies. Typically has post-secondary education in Business or Information Technology (or equivalent) with 8 – 10 years related experience.

**BUSINESS SOLUTIONS ARCHITECT 2 - POSITION CODE 820**

Specialist Level. Consults with client organizations to formulate broad-based Information Technology strategies to support organizational business goals. Provides the initial step in the process of delivering integrated business and information solutions. Duties may include:

- Conducts needs assessments or process facilitation with clients (typically at senior management levels) to identify key organizational, information, and integration requirements.
- Leads client groups to conceptualize processes to apply information technology as a strategic asset.
- Working with client group and other technical resources, develops and maintains a business application roadmap that provides reduced overall complexity and increased cost efficiency
- Develops comprehensive project budgets.
- Analyzes and quantifies business impacts of architectural initiatives.
- Effectively guide projects and manage customers' expectations.
- Ability to provide vision and business solution to customers and project team.
- Develops and delivers executive presentations requiring excellent communication and selling skills.
- Works very independently on strategic issues with senior management and is capable of managing large, complex projects.

Has a broad knowledge of business issues and processes such as Strategic Planning, Business Re-Engineering as well as IT resources and enabling technologies. Typically has post-secondary education in Business or information technology (or equivalent) with 10+ years industry experience.

**BUSINESS SOLUTIONS ARCHITECT 1 - POSITION CODE 830**

Senior Level. Consults with client organizations to determine technology requirements to support organizational business goals. Provides the initial step in the process of delivering integrated business and information solutions.

Duties may include:

- Conducts needs assessments or process facilitation with clients to identify organizational, information and integration requirements.
- Develops comprehensive project budgets.
- Analyzes and quantifies business impacts of architectural initiatives.
- Develops and delivers presentations to clients requiring strong communication and selling skills.
- Works independently on strategic issues with client, capable of managing fairly complex projects.

Has extensive knowledge of business issues and processes as well as IT resources and enabling technologies.

Typically has post-secondary education in Business or Information Technology (or equivalent) with 8+ years industry experience.

**BUSINESS ANALYST 3 - POSITION CODE 840**

Fully Competent Level. Consults with client business units to determine technology requirements and identify solutions to support business goals. Duties may include:

- Conducts needs assessments with clients to identify business technology requirements.
- Develops detailed business and technical specifications, which could include projected costs.
- Develops and delivers presentations to clients requiring strong communication skills.

Has sound knowledge of business issues and processes as well as IT resources and enabling technologies. Typically has post-secondary education in Business or Information Technology (or equivalent) with 5 - 6 years industry experience.

**BUSINESS ANALYST 2 - POSITION CODE 845**

Intermediate Level. Consults with client business units to determine technology requirements to support business goals.

Duties may include:

- Assisting in needs assessments sessions with clients to identify business technology requirements.
- Developing detailed business and technical specifications and proposal components.
- Assisting in the development and delivery of presentations to clients.

Has knowledge of business issues and processes as well as IT resources and enabling technologies. Typically has post-secondary education in Business or Information Technology (or equivalent) with 3 - 4 years industry experience.

**BUSINESS ANALYST 1 - POSITION CODE 847**

Developmental Level. Consults with client business units to determine technology requirements to support business goals. Duties may include:

- Assists in needs assessments sessions with clients to identify business technology requirements.
- Assists in developing business and technical specifications.
- Researches and compile specific information required for client presentations and requests.

Has basic knowledge of business issues and processes as well as IT resources and enabling technologies. Typically has post-secondary education in Business or Information Technology (or equivalent) with 1 - 2 years industry experience.

**CLIENT SERVICES MANAGER - POSITION CODE 848**

Management Level. Responsible for managing the relationship between client technical resources and in-house technical resources. Duties may include:

- Determining specific client requirements and arranging resources to fulfill those requirements.
- Managing client implementation and timelines of projects or updates.
- Responsible for developing creative and alternative solutions to specific issues that arise.
- May be required to provide help on an as needed basis to support customer issues.
- Monitors levels of service provided and frequently conducts customer satisfaction reviews.

Has extensive knowledge of business issues and processes, as well as strong knowledge of IT strategies enabling technologies. Typically has post-secondary education with a business specialty, (focusing on MIS), engineering, or computer science background. In addition, superior interpersonal and communication skills would be required to build strong professional business relationships with clients.

**CLIENT SERVICES COORDINATOR - POSITION CODE 850**

Senior Level. Consults with internal managers and other professionals to determine opportunities for technology solutions for business services. Duties may include:

- Conducting needs assessments with internal clients to identify organizational, information and technological requirements.
- Developing solutions to justify technology investments within organization's budget restrictions.
- Monitoring client satisfaction and serve as an escalation point for service problems.
- Providing input to information technology management on business service requirements.

Has extensive knowledge of internal business issues and processes, as well as IT resources and enabling technologies. Typically has post-secondary education with a business specialty, (focusing on MIS), engineering, or computer science background. In addition, strong interpersonal and communication skills are required to build professional business relations within the organization.

**INTEGRATED SYSTEMS (ERP)**

**Involved in all phases of the implementation and enhancement and/or support of integrated application packages or ERP Systems, (e.g., business applications such as AXAPTA, SAP, PeopleSoft, JD Edwards, Baan, or technical applications such as SCADA, GIS).**

**INTEGRATED SYSTEM (ERP) MANAGER - POSITION CODE 905**

Management Level. Responsible for the overall on-time, on-budget delivery of a successful ERP implementation.

Responsibilities may include:

- Manages a cross functional team in developing and implementing project deliverables.
- Provides technical direction and control of project personnel and for providing a framework for project planning, communications, reporting, procedural and contractual activity.
- Working with the client to identify business requirements and develop the proposal.
- Developing work plans, managing deadlines and coordination of project team and sub-team activities.
- Estimating project skill requirements, working with deployment to identify appropriate resources and managing their integration into the team.
- Defining and agreeing on deliverables and milestones.
- Communicating status and vision to client management and stakeholders.

Typically requires strategic knowledge of business processes and ERP product knowledge/experience as well as strong managerial and communication skills. Typically has post-secondary education in Business or Information Technology (or equivalent) with 10+ years related experience with extensive Project Management or leadership experience.

**ERP CONFIGURATION / APPLICATION 4 - POSITION CODE 910**

This is the first level of project management within a project environment. Assignments are complex and involve the direction of integration with other sub processes or modules. Duties may include:

- Recommends business process improvements and organizational changes where appropriate.
- Makes resource allocation decisions.
- In a consulting environment will be responsible for identifying and pursuing business development opportunities both inside and outside the integrated systems project team.

Requires strategic knowledge of the business processes relating to a specific module along with a deep understanding of the integration points with other business processes/modules. Knowledge of applicable report writing language applicable, (e.g. Crystal Reports, ABAP, Express), and reporting tools. Previous experience in project planning and management as a leader of a project sub-team including the allocation of resources.

**ERP CONFIGURATION / APPLICATION 3 - POSITION CODE 915**

Specialist Level. Incumbents at this Level will have an in-depth Level of understanding of the business processes relating to several modules and the integration points with the processes affecting other modules. Functional responsibilities will involve assignments of a complex nature often involving the integration aspects of the technology carried out independently. Duties may include:

- Leadership of a project sub-team.
- Provides advice to client groups on specific area of expertise.
- Identification of business process improvements and organizational issues within project.
- Leadership of in-depth technical workshops and the development of training materials.
- In a consulting environment will identify and pursue productivity improvement opportunities as part of an integrated project team.

Requires expert knowledge with the tools relating to a specific module and an understanding of other modules, broad implementation, and business experience and the ability to develop reports using applicable report writing language, (e.g. Crystal Reports, ABAP, Express, Workflow).

**ERP CONFIGURATION / APPLICATION 2 - POSITION CODE 920**

Senior Level. Incumbents at this level will have a strong level of understanding of the business processes relating to a specific module and the integration points with the processes affecting other modules. Functional responsibilities will involve assignments of a complex nature often involving the integration aspects of the technology carried out independently. Duties may include:

- Leadership of a project sub-team.
- Identification of business process improvements and organizational changes within project.
- Leadership of workshops and the development of training materials.
- In a consulting environment will identify and pursue productivity improvement opportunities as part of an integrated project team.

Requires expert knowledge with the tools relating to a specific module and an understanding of other modules, broad implementation, and business experience and the ability to develop reports using applicable report writing language, (e.g. Crystal Reports, ABAP, Express, Workflow).

**ERP CONFIGURATION / APPLICATION 1 - POSITION CODE 930**

Fully Competent Level. First level of business integration package implementation and consulting. Assignments are of moderate complexity with well-defined scope. Works under guidance. Duties may include:

- Training others in the area of expertise.
- Assisting with the development of training documentation.
- In a consulting environment will be part of a Business Development Team.

Requires knowledge of business processes relating to a specific module and understanding the tools applicable to that module, with previous experience in project life cycle for package solutions. Typically has in-depth experience in functional areas including, finance, human resources, and operations.

**ERP SOFTWARE DEVELOPMENT AND DEPLOYMENT ARCHITECT - POSITION CODE 940**

Expert Level. Provides high level technical expertise and consulting in designing and implementing and ensuring service delivery of technical solutions to support complex business integration or technical needs. Duties may include:

- Prepares estimates for functional design and programming tasks.
- Directly responsible for designing, coding and testing of very complex programs, for a variety of platforms, (e.g. UNIX, NT, etc.), using high level programming languages to support AXAPTA, SAP, PeopleSoft, ORACLE package implementation.
- May define the architecture for large projects, under the guidance of a systems architect.
- Responsible for quality assurance of program design and development.
- Works under minimal supervision and manages and schedules own time within an overall plan.
- Frequently provides direction for more junior staff.

Has a broad knowledge/understanding of IT resources and enabling technologies and capable of work at high technical level on all phases of business integration software, analysis, with (10+ years) related experience. Typically requires certification in numerous technical and business modules of SAP or other integrated package provider.

**ERP SOFTWARE DEVELOPMENT AND DEPLOYMENT 3 - POSITION CODE 945**

Specialist Level. Provides technical expertise in implementing and enhancing technical solutions employing technology to support business integration or technical needs. Duties may include:

- Prepares estimates for functional design and programming tasks.
- Directly responsible for designing, coding and testing of very complex programs, for a variety of platforms, (e.g. UNIX, NT, etc.), using high level programming languages to support AXAPTA, SAP, PeopleSoft, ORACLE package implementation.
- May participate in the defining of the architecture for large projects, under the guidance of a systems architect.
- May be responsible for quality assurance of program design and development.
- May provide direction for more junior staff.

Has in-depth knowledge/understanding of specific programs and enabling technologies and capable of work at high technical level on all phases of business integration software, analysis, with 8+ years related experience. Typically requires certification in several complex modules of SAP or other integrated package provider.

**ERP SOFTWARE DEVELOPMENT AND DEPLOYMENT 2 - POSITION CODE 950**

Senior Level. Under general direction, provides technical consulting in specific area of software expertise. Duties may include:

- Directly responsible for designing, coding and testing of complex programs in ABAP, Express, SQL, SQR, PeopleCode, etc.
- Prepares estimates for functional design and programming tasks for supervisor review.
- Responsible for quality assurance of program design and development.
- Develops project plans, schedules and estimates of moderate complexity, employing project management capabilities.

Typically requires certification in several modules of AXAPTA, SAP or other integrated package provider. Capable of work at high technical level on most phases of business integration software, analysis and programming, typically with 6+ years of related experience.

**ERP SOFTWARE DEVELOPMENT AND DEPLOYMENT 1 - POSITION CODE 960**

Fully Competent Level. Development of customized software and interfaces for Integrated Business Applications.

Duties may include:

- As part of a team develops specifications integrated systems (ERP) software programming applications, using languages such as ABAP, Express SQL, SQR, PeopleCode, etc.
- Designs codes, tests and debugs complex software programs.
- Maintains and documents programs in accordance with standards.

Typically requires certification in one or more modules of SAP or other integrated package provider with 4 - 6 years related experience.

**TECHNICAL WRITER 3 - POSITION CODE 965**

Expert Level. Responsible for determining the need for and designs all aspects of document projects of the broadest scope and highest technical complexity. Duties may include:

- Routinely leads process improvement teams and implements process improvements with possible company wide impact.
- Routinely works on cutting edge technology and represents projects and product areas to senior management.
- Influences the direction of technical writing and drives documentation standards across the company.

Typically has Bachelors degree in English, Computer Science, Business or related discipline and 8+ years technical writing and editing experience.

**TECHNICAL WRITER 2 - POSITION CODE 970**

Senior Level. Researches, writes indexes, edits or revises highly diverse user documentation of great scope and advanced technical complexity. Duties may include:

- Proactively participates on project teams to contribute to overall product development.
- Develops source materials, consults engineering staff and technical staff and co-ordinates the preparation of required illustration materials.
- Writes and tests complex programs and demos.

Typically has Bachelors degree in English, Computer Science, Business or related discipline and 5+ years technical writing and editing experience.

**TECHNICAL WRITER 1 - POSITION CODE 975**

Intermediate Level. Responsible for the development of technical user and programmer documentation for software and/or hardware. Duties may include:

- Involves the co-ordination and research of materials, as well as writing and editing.
- May include documentation for on-line help lines.
- Working from design documents and hands-on product experience to research, write, and verify product information and operations procedures.

Typically requires post-secondary degree with experience with programs such as MS-Word, HTML, Adobe FrameMaker, RoboHelp. Experience working with programmers to generate technical reference materials, and familiarity with programming concepts and terms.

**TECHNICAL TRAINER 2 - POSITION CODE 980**

Senior Level. Responsible for organizing and delivering overall educational and training programs for technical applications, products and/or processes. Duties may include:

- Conducts training sessions and evaluates training effectiveness.
- Development of user materials and documentation.
- Design or modify major training programs.
- Analysis of user training requirements and outcomes.

Typically requires post-secondary degree with extensive experience in training design and delivery of technical programs. In-depth understanding of specific technical products and processes. Experience working with customer relations. Strong communication and presentation skills as well as problem solving skills are required.

**TECHNICAL TRAINER 1 - POSITION CODE 985**

Fully Competent Level. Responsible for organizing and delivering educational and training programs for technical and applications, products and/or processes. Duties may include:

- Conduct training sessions and provides ongoing training support.
- Development of user materials and documentation.
- Design or modifying programs and presentation materials.
- Participates in the analysis of user training requirements and outcomes.

Typically requires post-secondary degree with experience in delivery of technical programs. Understanding of specific technical products and processes. Experience working with customer relations. Strong communication and presentation skills as well as problem solving skills are required.

**NETWORKS**

Involves in the planning, development, and/or support of networks for client services using knowledge of technologies such as, TCP/IP protocols, NetWare, NT Server, Lotus Notes, LANs and WANs, WAP and VoIP, routers, firewalls, load balancers etc.

**NETWORK INFRASTRUCTURE MANAGER - POSITION CODE 1005**

Responsible for the overall supervision and management of the Network Team and the design and support of the company's network infrastructure. Duties may include:

- Manages the planning, development and installation of network systems.
- Develops, maintains and communicates project plans and schedules, prioritizes requirements and coordinates software and hardware deployments.
- Provides technical guidance and solutions for the development and operation of networks.
- Responsible for management of the group, including budgeting, staffing, and long-range planning of resources.
- Responsible for deliverables from the team and accountability for team productivity.
- Provides technical leadership to other technical resources and leads project teams.

Typically has post-secondary education in Business or Information Technology (or equivalent) with 10+ years industry experience. Has expert knowledge of telecommunications hardware and protocols and an in-depth knowledge of operating environments plus a minimum of 5 years leadership experience.

**NETWORK SPECIALIST 3 - POSITION CODE 1010**

Expert Level. Provides technical guidance and solutions for the development and operation of large, complex networks. Duties may include:

- Responsible for the analysis and evaluation of alternative architectures and recommendations on preferred option for complex network systems and interfaces.
- Develops solutions to complex technical problems on the network.
- Provides technical leadership and solutions for the development and operation of a broad range of networks.
- Provides technical leadership to other technical resources and frequently leads a project team.

Has expert knowledge of telecommunications hardware and protocols and a broad knowledge of operating environment. Typically has post-secondary education in Business or Information Technology (or equivalent) with 8+ years industry experience.

**NETWORK SPECIALIST 2 - POSITION CODE 1015**

Specialist Level. Provides technical guidance and solutions for the development and operation of a variety of network interfaces. Duties may include:

- Analysis and evaluation of alternative architectures and recommendations on preferred option for specialized network systems and interfaces.
- Develops solutions to specialized technical problems on the network.
- Provides technical guidance and solutions for the development and operation of networks.

Has in-depth knowledge of telecommunications hardware and protocols in a range of operating environments. Typically has post-secondary education in Business or Information Technology (or equivalent) with 6+ years industry experience.

**NETWORK SPECIALIST 1 - POSITION CODE 1020**

Senior Level. Provides technical guidance and solutions for the development and operation of Internet environment networks. Duties may include:

- Investigates and develops innovative solutions for the development and maintenance of diverse networks.
- Provides technical advice for new technologies and service enhancement.
- Has in-depth knowledge of telecommunications hardware, protocols and network systems.

Typically has post-secondary education in Business or Information Technology (or equivalent) with 4 - 5 years industry experience.

**NETWORK ANALYST 2 - POSITION CODE 1030**

Fully Competent Level. Under general supervision, maintains and implements enhancements to telecommunications networks develops. Duties may include:

- Monitors the network environment (LAN or external client service network) to ensure that problems are identified and resolved.
- Performance systems maintenance and network upgrades.
- Provide planning and support for network environment to ensure that access and network capacity are in place to meet end user needs, including: network documentation, provisioning, testing and monitoring to meet reliability performance and service goals.
- Configures routers, switches, modem pools and other network components improvements to network performance.

Has working knowledge of telecommunications hardware and protocols and one or more network environments.

Typically has post-secondary education in Business or Information Technology (or equivalent) with 3 - 4 years industry experience. Equivalent of NOVELL certified engineer.

**NETWORK ANALYST 1 - POSITION CODE 1040**

Developmental Level. Monitors the network environment (LAN or external client service network) to ensure that problems are identified and resolved. Assists in maintenance and network upgrades. Duties may include:

- Provide support for network environment to ensure that access and network capacity are in place to meet end user needs, including: network documentation, provisioning, testing and monitoring to meet reliability performance and service goals.
- Assists in the configuration of switches, modem pools and other network components improvements to network performance.

Has basic knowledge of telecommunications hardware and protocols and one or more network environments. Typically has post-secondary education in Business or Information Technology (or equivalent) with 2 - 3 years industry experience.

**INTERNET/E-COMMERCE**

Involved in the planning, development, and/or support of Internet/E-Commerce applications using knowledge of technologies such as TCP/IP protocols, Object-Oriented Design, WAP, JAVA, VB, HTML, XML, .NET, UML and COM+, CORBA, Javabeans.

**WEB APPLICATIONS TECHNICAL MANAGER - POSITION CODE 1110**

Management Level. Responsible for managing the development, integration and implementation of major web-based applications and e-commerce systems. Duties may include:

- Lead the development team in implementing project designs, standards and processes.
- Manages the planning, development and scheduling of installation of new and existing web-based applications and systems.
- Develops, maintains and communicates project plans and schedules, prioritizes requirements and coordinates software, hardware and people resources.
- Responsible for management of the group, including budgeting, staffing, and long-range planning of resources.
- Responsible for deliverables from the team and accountability for team productivity.
- Assist in development and maintenance of technical standards for the Technology department.
- Provide advanced knowledge of currently implemented technologies and research new and emerging technologies.
- Provides technical leadership to other technical resources and leads project teams.
- Ensures quality assurance of project design and development.

Strong understanding of web-based technology, current platforms, servers, development tools and languages in addition to several years of progressive supervisory and management experience.

**E-COMMERCE SYSTEMS ANALYST 3 - POSITION CODE 1111**

Senior Level. Responsible for planning, development and support of major, complex Internet/E-commerce environment includes application maintenance, documentation, testing, monitoring and troubleshooting. Duties may include:

- Responsible for Internet working technology and its practical applications such as Extranet, Internet, Intranet, PCS and email issues.
- Evaluate emerging Internet technologies and make recommendations regarding the adoption, configuration, and support of the technology.
- Configures and administers web application systems and the designs site layouts and implementation of web sites.
- Responsible for project plans and schedules, as well as quality assurance of project design and development.
- May provide technical leadership for more junior staff.

Extensive background in the theory of WAIS Networks, the Internet and E-commerce. Strong skills in object oriented analysis, design maintenance (might include issues relating PCS, video conferencing and next generation devices). Experienced with server Operating Systems (Unix, NT, Novell etc.) and TCP/IP, web net servers such as IIS7.0, IIS6.0, Apache, Netscape, Java, Perl, Visual Basic, C++.

**E-COMMERCE SYSTEMS ANALYST 2 - POSITION CODE 1112**

Intermediate Level. Responsible for development and support of Internet environment, includes application maintenance, documentation, testing, monitoring and troubleshooting. Duties may include:

- Responsibility for Internet working technology and its practical applications such as Extranet, Internet, Intranet, PCS and email issues.
- Responsibility for net security and data encryption.
- Configuration and administration of web application systems and the designs site layouts and implementation of web sites.
- Investigation of problems and trouble-shoot.

Strong background in the theory of WAIS Networks the Internet and E-commerce. Strong skills in object oriented analysis, design maintenance. Experienced with server Operating Systems (Unix, NT, Novell etc.) and TCP/IP, web net servers such as IIS7.0, IIS6.0, Apache, and Netscape.

**E-COMMERCE SYSTEMS ANALYST 1 - POSITION CODE 1113**

Developmental Level. Responsible for routine development and support of Internet environment, includes application maintenance, documentation, testing, monitoring and troubleshooting. Duties may include:

- Support of Internet working technology and its practical applications such as Extranet, Internet, Intranet, PCS and email issues.
- Testing of systems including net security and data encryption.
- Assist in the configuration and administration of web application systems and the designs site layouts and implementation of web sites.

Knowledge of the theory of WAIS Networks, the Internet and E-commerce. Skills in object oriented analysis, design maintenance. Experienced with server Operating Systems (Unix, NT, Novell etc.) and TCP/IP, web net servers such as IIS7.0, IIS6.0, Apache, and Netscape.

**WEB APPLICATIONS ARCHITECT 2 - POSITION CODE 1120**

Specialist Level. Responsible for the development and implementation of major, complex web-based applications, focused primarily on backend and middleware issues, COM++. Duties may include:

- Designs architecture for major web-based applications.
- Perform reviews on project functional specifications.
- Manages project plans and schedules.
- Ensures quality assurance of project design and development.
- Frequently provides technical leadership for more junior staff.

Highly Skilled in Rapid Application Development Tools (PowerBuilder, C++, Visual Basic, etc.). Extensive experience in writing SQL procedures, scripting mark-up languages like HTML, XML, .NET, JavaScript. Extensive experience with a wide variety of major browser platforms, and major web site servers and MS transaction servers.

**WEB APPLICATIONS ARCHITECT 1- POSITION CODE 1121**

Senior Level. Responsible for the development and implementation of complex web-based applications focused primarily on backend and middleware issues, COM++. Duties may include:

- Designs architecture for web-based applications.
- Works to project functional specifications.
- Responsible for components of project plans and schedules.
- Conducts quality assurance of project design and development.
- May provide technical guidance.

Highly Skilled in Rapid Application Development Tools (PowerBuilder, C++, Visual Basic, etc.). In-depth experience in writing SQL procedures, scripting mark-up languages like HTML, XML, .NET, JavaScript. Strong experience with major browser platforms, and major web site servers and MS transaction servers.

**WEB APPLICATIONS DEVELOPER 2 - POSITION CODE 1122**

Intermediate Level. Responsible for the development and implementation of web-based applications, focused primarily on backend and middleware issues, COM++. Duties may include:

- Prepares code, tests and debugs Internet applications.
- Aids in the design of web infrastructure.

Strong skills in Rapid Application Development Tools (PowerBuilder, C++, Visual Basic, etc.). Ability to write SQL procedures, and familiar with scripting mark-up languages like HTML, XML, .NET, JavaScript. Exposure to major browser platforms, and major web site servers and MS transaction servers.

**WEB APPLICATIONS DEVELOPER 1 - POSITION CODE 1123**

Developmental Level. Assists in the design and implementation of web-based applications, focused primarily on backend and middleware issues, COM++. Duties may include:

- Prepares routine code, tests and debugs Internet applications.

Skilled in Rapid Application Development Tools (PowerBuilder, C++, Visual Basic, etc.). Familiar with SQL procedures, and scripting mark-up languages like HTML, XML, JavaScript, .NET. Exposure to major browser platforms, and major web site servers and MS transaction servers.

**GRAPHIC USER INTERFACE DESIGNER 3 - POSITION CODE 1131**

Senior Level. Responsible for the implementation of major Front End issues of a web site. Duties may include:

- Develops graphic designs new media applications.
- May provide technical leadership for more junior staff.

Expert graphic design skills, (particularly for electronic mediums). Strong expertise in HTML, CSS, JavaScript and other client side languages. Expert knowledge of Macromedia or other types of multimedia author ware, (e.g., Flash), and proficient in image manipulation tools such as PhotoShop, or Corel Draw. Strong exposure to major browser platforms.

**GRAPHIC USER INTERFACE DESIGNER 2 - POSITION CODE 1132**

Intermediate Level. Responsible for the implementation of the Front End issues of a web site. Duties may include:

- Develops graphic designs for new media applications.
- Prepares codes, tests and debugs Internet applications.

Strong graphic design skills, (particularly for electronic mediums). Expertise in HTML, CSS, JavaScript and other client side languages. Competent in Macromedia or other types of multimedia author ware, (e.g., Flash), and proficient in image manipulation tools such as PhotoShop or Corel Draw. Strong exposure to major browser platforms.

**GRAPHIC USER INTERFACE DESIGNER 1 - POSITION CODE 1133**

Developmental Level. Assists in the implementation of the Front End issues of a web site. Duties may include:

- Assists in the development of graphic designs for Internet applications.
- Prepares codes, tests and debugs Internet applications.

Graphic design skills (particularly for electronic mediums). Able to code in HTML, CSS, JavaScript and other client side languages. Knowledge of Macromedia or other types of multimedia author ware and proficient in image manipulation tools such as PhotoShop or Corel Draw. Exposure to major browser platforms.

**WEB MASTER 2 - POSITION CODE 1151**

Senior Level, typically in a larger organization. Responsible for all website operations and sit architecture including maintaining, supporting and implementing technologies in the development and distribution of electronic documents and pages. Duties may include:

- Researches, develops and implements strategies to build and maintain major web sites.
- Manages Internet security and the development and maintenance of firewalls.
- Plans and implements Web-related processes and procedures, designing site guidelines and standards.
- Administration and coordination of web servers IP routing, DNS maintenance FTP server configurations and firewall administration.
- May plan and direct web site layouts and design.

In-depth knowledge of NT Server and TCP/IP networking environment and knowledge of applications such as SQL, Netscape, Internet Explorer and Internet mail programs. Extensive knowledge of Microsoft FrontPage 98 or 2000, and data transfer methodologies.

**WEB MASTER 1 - POSITION CODE 1152**

Intermediate Level. Responsible for maintaining, supporting and implementing technologies in the development and distribution of electronic documents and pages. Duties may include:

- Plans and implements Web-related processes and procedures, designing site guidelines and standards.
- Administration and coordination of web servers IP routing, DNS maintenance FTP server configurations and firewall administration.
- Plan and perform on-going site maintenance.
- Monitors and analyzes site usage.
- May be responsible for web site layouts and design.

In-depth knowledge of NT Server and TCP/IP networking environment and knowledge of applications such as SQL, Netscape, Internet Explorer and Internet mail programs.

**INTERNET SECURITY AND SYSTEMS TESTING - POSITION CODE 1155**

Senior Level. Responsible for testing security of systems and validation of security protocols and malicious code/virus review. Duties may include:

- Assessing infrastructure for vulnerabilities and weaknesses and correct them prior to exposure or loss of technology.
- Review of System Activity Log generated for the purpose of Intruder detection.
- System modification Activity, System Usage patterns, and System Status.
- Monitoring of all LAN segments for Vendor access for all locations and ISP WAN links for performance and devious behavior patterns.
- Perform platform maintenance and testing for all Network Security Hardware.

Must have in-depth knowledge of operating systems, network, telephony, Internet and Intranet, technologies, computer security, data protection and encryption and electronic and systems hardware components, exploitive techniques of end-user interaction.

**CAD DESIGN AND SYSTEMS**

Develops drawings according to engineering specifications and client requirements, using computer assisted drafting (CAD, AutoCAD) software programs or graphical interfaces and provides support for specialized CAD systems

**CAD DESIGNER MANAGER - POSITION CODE 1205**

Managerial Level. Responsible for managing CAD design group and the operation and support of Computer Aided Design software and equipment. Duties may include:

- Manages the planning, development and installation of network systems.
- Develops, maintains and communicates project plans and schedules, prioritizes requirements.
- Responsible for management of the group, including budgeting, staffing, and long-range planning of resources.
- Responsible for deliverables from the team and accountability for team productivity.
- Responsible for the recruiting, training, employee motivation and discipline of assigned employees.

Typically has post-secondary education with extensive knowledge of C.A.D. design and systems in addition to several years of supervisory experience.

**CAD DESIGNER SUPERVISOR - POSITION CODE 1210**

Supervisory Level. Responsible for supervision of employees who perform design tasks requiring the operation of Computer Aided Design software and equipment. Duties may include:

- Ensures that work meets company standards and schedules.
- Responsible for the recruiting, training, employee motivation and discipline of assigned employees.

Typically has post-secondary education with min 5 years C.A.D. design experience and 1 - 2 years of lead supervisory experience. Familiar with digitizers, plotters, CRT's and associated peripheral equipment.

**CAD DESIGNER 3 - POSITION CODE 1220**

Senior Level. Duties may include:

- Prepares complex layouts and designs according to engineering specifications, requiring knowledge of advanced AutoCAD programs such as 3 - D simulations or Pro-Engineer.
- Responsible for drafting quality control and interface with other disciplines.
- May provide leadership to a team of CAD designers.

Typically has post-secondary education with 5+ years of drawing and detailing using CAD technology, including advanced graphic interface programs.

**CAD DESIGNER 2 - POSITION CODE 1230**

Intermediate Level. Duties may include:

- Prepares layouts and designs according to engineering specifications using computer assisted drafting programs, such as AutoCAD R-13 and/or CadPipe.
- Provides drafting quality control and coordination with other disciplines.

Typically has post-secondary education with 2 - 3 years of drawing and detailing using CAD technology.

**CAD DESIGNER 1 - POSITION CODE 1240**

Developmental Level. Duties may include:

- Assists in the preparation of layouts and designs according to engineering specifications, under the supervision of more senior designers.

Typically has post-secondary education with limited industry experience in drawing and detailing using CAD technology.

**CAD DESIGN SYSTEMS SPECIALIST - POSITION CODE 1245**

Specialist Level. Develops standards and procedures for using Cad Systems. Duties may include:

Provides technical support on computer assisted design software programs and hardware interfaces. Duties may include:

- Integrate new CAD systems, develop standards, audit, and provide technical support
- Work with the software providers to further develop software for specific company applications.
- Provide support for the interface between CAD, Information Technology and Engineering systems.
- Provides troubleshooting and optimization for technical problems within area of specialty.
- Train personnel in new CAD technology, process, procedures and reporting.

Typically has post-secondary education in Information Technology with extensive experience in CAD support and co-ordination, piping and other related CAD technology.

**CAD DESIGN SYSTEMS ANALYST - POSITION CODE 1250**

Fully Competent. Provides technical support on computer assisted design software programs and hardware interfaces.

Duties may include:

- Develops or enhances design software in response to end-user requests.
- Knows and can effectively use/support various design products.
- Provides troubleshooting and optimization for technical problems within area of specialty.

Typically has post-secondary education in Information Technology with 3 - 5 years of industry experience related to CAD technology.

**CLIENT SUPPORT (Help Desk)**

Involves in providing response to end users regarding information systems problems and troubleshooting.

**CLIENT SUPPORT MANAGER - POSITION CODE 1305**

Plans, directs and manages the daily operations of a client support department. Establishes department policies and procedures. Duties may include:

- Resource planning, managing the team.
- Responsible for deliverables from the team and accountability for team productivity.
- Hiring, training and discipline of assigned employees.
- Analyzes productivity data and identifies and implements continuous improvement strategies for department.

Typically requires post-secondary diploma in business with 10+ years related customer support experience and 5+ years leadership experience.

**HELP DESK LEAD - POSITION CODE 1310**

Supervisory Level. Responsible for ensuring that end-user problems are resolved in a timely manner. Duties may include:

- Resolves complex end-user systems issues in consultation with the appropriate technical or operation personnel.
- Plans and makes recommendations regarding improve the effectiveness of the help desk systems.
- Responsible for monitoring and maintaining records for the help desk system and problem management database.
- Leadership of a help desk team, providing guidance and training in directing the work of other team members.

Requires knowledge of major information systems, problem management database, strong communications skills and extensive related experience.

**HELP DESK REPRESENTATIVE 2 - POSITION CODE 1320**

Fully Competent Level. Provide first level support to user application problem. Duties may include:

- Diagnoses problem in discussion with user and forwards to the appropriate level of support.
- Follows established procedures in resolving more complex end-user systems problems.
- Follows up with user to ensure that problem have been resolved and ensures documentation is complete.

Requires knowledge of major information systems, strong communications skills and several years of related experience.

**HELP DESK REPRESENTATIVE 1 - POSITION CODE 1330**

Intermediate Level. Provide telephone assistance to user application problem. Duties may include:

- Diagnoses problem in discussion with user and forwards to the appropriate level of support.
- Follows established procedures in resolving routine end-user systems problems.
- Follows up with user to ensure that problem have been resolved and ensures documentation is complete.

Requires knowledge of major information systems, strong communications skills and limited related experience.

**CLIENT SUPPORT LEAD - POSITION CODE 1340**

Supervisory Level. Responsible for ensuring clients inquiries regarding software or other product support requests are handled and resolved in a professional and timely manner. Duties may include:

- Resolves the most complex client software or product support issues in consultation with the appropriate technical or operation personnel.
- Plans and makes recommendations regarding improving the effectiveness of the client services function.
- Responsible for monitoring and maintaining records for the trouble ticketing system and problem management database.
- Leadership of client support team, providing guidance and training in directing the work of other team members.

Requires knowledge of major information systems, problem management database, strong communications skills and extensive related experience. Strong communication skills.

**CLIENT SUPPORT REPRESENTATIVE 3 - POSITION CODE 1350**

Senior Level. Responsibility for providing solutions to complex client software or other product support requests. Duties may include:

- Provides direct support on complex technical problems to clients via phone, e-mail, web or onsite.
- May provide client training, public/internal courses, user tutorials or customized training.
- May provide technical sales team with technical expertise.
- Performs special projects or consulting to meet client needs.

Typically has degree, plus min 5+ years related industry experience. Experience Strong Communication skills. Knowledge on one or more products, database administration, and technologies.

**CLIENT SUPPORT REPRESENTATIVE 2 - POSITION CODE 1360**

Intermediate Level. Responsibility for providing solutions to moderately complex client software or other product support requests. Duties may include:

- Provides direct support to clients via phone, e-mail, web or onsite.
- May assist in client training, public/internal courses, user tutorials or customized training.
- Performs special projects or consulting to meet client needs.

Typically has degree, plus minimum of 2 - 5 years related industry experience. Working knowledge of various products, database administration, and technology. Strong communication skills.

**CLIENT SUPPORT REPRESENTATIVE 1 - POSITION CODE 1370**

Developmental Level. Responsibility for providing routine solutions to client software or other product support requests. Duties may include:

- Provides direct support to clients via phone, e-mail, web or onsite.
- May assist in client training, public/internal courses, user tutorials or customized training.
- Performs special projects or consulting to meet client needs.

Typically has degree, plus minimum of 0 - 2 years related industry experience. Working knowledge of at least one major product. Strong communication skills.

**COMPUTER OPERATIONS****Involved in the operations of information systems including client/server environments****COMPUTER OPERATIONS MANAGER - POSITION CODE 1405**

Plans, directs, and manages the daily operations of a computer operations department. Establishes department policies and procedures. Duties may include:

- Ensures resources are available to meet production schedule. Manages operations team. Responsible for the employment, training, and effectiveness of team members. Accountable for team productivity.
- Meets with client to provide regular reporting on production operations.
- Creates/manages a budget and operations schedule.
- Plans and implements equipment changes to improve the effectiveness of operating systems.
- Responsible for maintaining records and production, equipment maintenance and downtime reporting.

Typically requires post-secondary diploma in computer-related discipline with 10+ years related experience and 5+ years leadership experience.

**COMPUTER OPERATIONS LEAD - POSITION CODE 1410**

Supervisor Level. Provides top-level trouble shooting to resolve complex operational problems. Duties may include:

- Responsible for decisions on running and recovering information systems/production operations to ensure that schedules are met.
- Plans and makes recommendations regarding equipment to increase the capacity or improve the effectiveness of operating systems.
- Responsible for maintaining records and production, equipment maintenance and downtime reporting.
- Leads a computer operations team (1 or more shifts), providing guidance and directing the work of other team members.
- Monitors activity and performance on domain controllers.
- Ensures network policies, standards and procedures are followed. e.g. data archival.
- Administers report/output distribution.

Typically requires post-secondary diploma in computer-related discipline with 6 - 8 years related experience.

**COMPUTER OPERATOR 3 - POSITION CODE 1420**

Fully Competent Level. Monitors the operation of computer terminals and peripherals in accordance with procedures and reports any deviations. Duties may include:

- Diagnoses problems and identifies point of equipment or program failure. Confers with appropriate technical support and may take actions to resolve performance problems.
- May make recommendations on improvements and upgrades required to enhance performance of operations.
- Provides guidance and checks work of other computer operators.
- Competent in all phases of computer operations..

Typically requires post-secondary diploma in computer-related discipline with 5+ years related experience.

**COMPUTER OPERATOR 2 - POSITION CODE 1430**

Intermediate Level. Monitors the operation of computer terminals and peripherals in accordance with procedures and reports any deviations. Duties may include:

- Diagnoses problems and escalates to the appropriate level.
- Capable of working in most phases of computer operations, including server or systems back-ups.
- Involved in the maintenance and enhancement of existing operations, including server or systems back-ups.
- Makes recommendations for short-term production schedule changes to meet demands.

Typically requires post-secondary diploma in computer-related discipline with 2 - 5 years experience.

**COMPUTER OPERATOR 1 - POSITION CODE 1440**

Developmental level. Assists with the operation of computer terminals and peripherals in accordance with procedures. Duties may include:

- Runs jobs as per production schedule and established protocols. Monitors output and reports problems to senior staff.
- Produces production reports; monitors variances and implements scheduling changes.

Typically requires post-secondary diploma in computer-related discipline with 1-2 years experience.

**OPERATIONS ANALYST 2 - POSITION CODE 1445**

Senior Level. Ensures uninterrupted service, effective scheduling, usage and performance monitoring of information systems/production operations, for specialized technology platforms such as ERP, Client/server, distributed networks. Duties may include:

- Co-ordinates scheduling of preventive maintenance of equipment.
- Troubleshoots complex computer operations problems.
- Upgrades the operating system and applies patches as required.
- Develops and executes a backup schedule including regular rotation of backup tapes to secure off-site storage.
- Plans the collection and analysis of performance data on an ongoing basis.

Typically requires post-secondary diploma in computer-related discipline with extensive vendor training specific to equipment.

**OPERATIONS ANALYST 1 - POSITION CODE 1450**

Fully Competent. Ensures effective scheduling, usage and performance monitoring of information systems/production operations, including production test systems. Duties may include:

- Co-ordinates scheduling of preventive maintenance of equipment.
- Upgrades the operating system and applies patches as required.
- Executes a backup schedule including regular rotation of backup tapes to secure off-site storage.
- Monitors virus scanning on servers and performs disinfectant procedures.
- Collects and analyzes performance data on an ongoing basis.

Typically requires post-secondary diploma in computer-related discipline with vendor training specific to equipment.

**DATABASE MANAGEMENT**

Involves in development, implementation, and management of stored procedure design and testing of major databases, such as ORACLE, SQL, ACCESS, Basis and other ERP databases etc.

**DATABASE MANAGER - POSITION CODE 1505**

Manages Database Design and data warehousing function. Duties may include:

- Organizes project and task workloads, identifying appropriate individuals for assignments.
- Assesses results of technical projects, budgetary and scheduled guidelines.
- Responsible for the employment, training and discipline of assigned employees.

Typically has Bachelors degree/Master Degree in Computer Science or equivalent, 10+ years applicable database design and management experience, including 5+ leadership experiences.

**DATABASE ARCHITECT 2 - POSITION CODE 1510**

Expert Level. Provides high level database infrastructure technical expertise in the development of the database design, tables, panel and SQL design and testing in very large or advanced systems development projects and management of large, complex systems. Duties may include:

- Consults with client group to determine database development, delivery and service requirements and conduct systems analysis.
- Leads the design and implementation of new databases, monitoring and maintaining existing databases, resolving complex database issues, problem determinations, optimizing performance, and implementing protocols for disaster recovery and security.
- Develops plans, estimates and methodology, normalization and procedures for very large computer applications database development projects.
- Leadership of a team of Information Technology professionals, in very large, complex projects or several smaller projects, involving database development.

Has a very broad knowledge/understanding of IT resources and methodologies. Is recognized as a specialist in one or more database systems such as Oracle, Basis etc., typically with 10+ years industry experience.

**DATABASE ARCHITECT 1 - POSITION CODE 1520**

Senior Level. Provides database technical expertise in the development of and support of database design, tables, panel and SQL design and testing in large or complex integrated systems projects or several smaller projects. Duties may include:

- Consults with client to determine database development requirements, and conduct systems analysis.
- Designs and implements new databases, monitors and maintains existing databases, resolves complex database issues, problem determinations, optimizes performance.
- Develops plans, estimates and methodology, normalization and procedures for computer applications database development projects.
- May be responsible for the maintenance and enhancement of existing operational application systems, providing either technical or application-specific expertise/knowledge.
- Leading the design and implementation of new databases, monitoring and maintaining existing databases, resolving complex database issues, problem determinations, optimizing performance, and implementing protocols for disaster recovery and security.
- May provide leadership to a team of Information Technology professionals.

Has a broad knowledge/understanding of IT resources and methodologies and is recognized as a specialist in one or more database systems such as Oracle, Basis, etc., with 8 + years industry experience.

**DATABASE ANALYST 2 - POSITION CODE 1530**

Full Competent Level. Provides technical expertise in the development of and support of database design, tables, panel and SQL design and testing in integrated systems implementation projects or other complex database systems. Duties may include:

- Defines standards and reviews systems documentation. Develops plans, estimates and methodology and procedures for computer applications development projects.
- Works under minimal supervision and manages and schedules own time within an overall plan. May manage small projects.

Has sound knowledge/understanding of NT and SQL server environments, resources and methodologies and has in-depth knowledge in one or more database systems such as Oracle, Basis etc., with 5-7 years industry experience.

**DATABASE ANALYST 1 - POSITION CODE 1540**

Developmental Level. Responsible for the migration, installation, testing, performance and tuning and disaster recovery for one or more moderately complex database systems. Duties may include:

- Develops SQL queries (stored procedures) and table replications.
- Defines standards and prepares systems documentation. Develops plans, estimates and methodology and procedures for computer applications development projects.
- Designs report views and implements procedures for data input.

Has sound knowledge in one or more database systems such as Oracle, Basis etc., with 3 - 4 years industry experience.

**DATABASE ADMINISTRATOR 2 - POSITION CODE 1545**

Senior Level. Manages large, complex, enterprise database to ensure integrity and security and acts as interface between end-users and database. Duties may include:

- Performs software installations and upgrades to database. Schedules installations, upgrades and maintenance.
- Management of the database with respect to tuning, performance monitoring, capacity planning, space management and reorganization and quality assurance.
- Responsible for policies and procedures for database security, passwords, maintenance of standards and operating procedures and work process procedures.
- May train database management professionals.

Requires in-depth knowledge of server operating systems and specialized database management systems. An expert in several database technologies and knowledgeable about others, typically with 6+ years of industry experience.

**DATABASE ADMINISTRATOR 1- POSITION CODE 1550**

Fully Competent Level. Manages small to medium-sized enterprise database to ensure integrity and security and acts as interface between end-users and database. Duties may include:

- Performs software installations and upgrades to database. Schedules installations, upgrades and maintenance.
- Management of the database with respect to tuning, performance monitoring, capacity planning, space management and reorganization and quality assurance.
- Responsible for database security, passwords, maintenance of standards and operating procedures and work process procedures.
- May train database management professionals.

Requires in-depth knowledge of server operating systems and database management systems. An expert in one database technology and knowledgeable about others, typically with 4- 5 years of industry experience.

**TECHNICAL SALES & SUPPORT (Pre-Post Sales)**

**Involved in direct contact with clients to initiate and follow-up on the sales and support for technical products and/or services.**

**REGIONAL SALES MANAGER - POSITION CODE 1605**

Responsible for managing the growth of the account portfolio in their region, selling technology-based professional services and/or hardware/software. Duties may include:

- Management of the sales team, including hiring, training, and coaching for sales quota attainment.
- Communicates market information, competitive strategies, and sales and service trends to corporate.
- Participant in the development of key account relationships, focusing on the establishment and maintenance of the strategic relationship.
- Builds and maintains a comprehensive knowledge of the marketplace and competition to identify enhancements for product/service development.
- Maintains a working knowledge of product, product architecture, development tools, and common customer operating environments.

Typically has a post-secondary education with a full understanding of industry, company and customer sales principles. Minimum 10+ years experience establishing and growing client base in a technology based sales role 5+ years leadership experience.

**TECHNICAL SALES MANAGER - POSITION CODE 1610**

Plans and directs sales and possibly marketing activities to maximize sales volumes, market potential and profitability.

Duties may include:

- Continually improves services to ensure customer satisfaction.
- Provides leadership, guidance and training to sales team.

Typically requires a post-secondary education with 8 - 10 years of sales and marketing experience in related industry. Strong management skills and excellent communications skills.

**TECHNICAL SALES REP 2 (Sr. Sales Representative) - POSITION CODE 1615**

Senior Level. Responsible for marketing and sales of major technical products and/or services that require complex sales and negotiation processes, often in stages and over a long period of time, to a larger specific sales territory or to a market segment. Duties may include:

- Identify and meet with prospective clients to determine specific requirements.
- Arrange presentations and/or demonstrations of technical products/services.
- May prepare detailed and complex quotes.
- Leads complex negotiations regarding terms of contracts.

Typically requires a post-secondary education with extensive experience in technical field with excellent communication and negotiation skills.

**TECHNICAL SALES REP 1 (Sales Representative) - POSITION CODE 1620**

Fully Competent. Responsible for marketing and sales of technical products and/or services in a specific sales territory or to a market segment. Duties may include:

- Identify and meet with prospective clients to determine specific requirements.
- Arrange presentations and/or demonstrations of technical products/services.
- Involved in preparing quotes and negotiating terms of contracts.

Typically requires a post-secondary education with 5 - 8 years of sales and marketing experience in related industry. Strong communications and negotiation skills.

**BUSINESS DEVELOPMENT REPRESENTATIVE (NEW) – POSITION CODE 1623**

Responsible for the Business Development function for the company. Duties may include:

- Development, maintenance and implementation of marketing and sales plan.
- Communicates market information, competitive strategies, and sales and service trends to corporate.
- Participant in the development of key account relationships, focusing on the establishment and maintenance of the strategic relationship.
- Builds and maintains a comprehensive knowledge of the marketplace and competition to identify enhancements for product/service development
- Maintains a working knowledge of product, product architecture, development tools, and common customer operating environments.
- Assists in the development of proposals for new work.

Qualifications typically include college graduate in Business Management, Geomatics program or related University degree, or Member of the Association of the Alberta Land Surveyors, combined with several years of industry experience, or equivalent combination of education and experience.

**APPLICATIONS SPECIALIST 3 - POSITION CODE 1625**

Senior Level. Recommend and develop customized technical solutions for major technical applications and assist with complex configuration and implementations of application at end-user site. (Pre-Post Sales) Duties may include:

- Responsible for determining customization requirements of complex technical applications.
- Provide technical presentations and demonstrations of application technology.
- Prepare cost estimates and quotations for customers.
- Provides technical expertise for pre-post sale and follow-up with client.

Typically requires a post-secondary education with minimum 6 years industry experience, with strong communications skills.

**APPLICATIONS SPECIALIST 2 - POSITION CODE 1630**

Fully Competent Level. Recommend and develop customized technical solutions for technical applications and assist with configuration and implementations of application at end-user site. (Pre-Post Sales) Duties may include:

- Responsible for determining customization requirements of existing technical applications .
- Provide technical presentations and demonstrations of application technology.
- May prepare cost estimates and quotations for customers.
- May provide technical expertise for pre-post sale and follow-up with client.

Typically requires a post-secondary education with 4 - 5 years industry experience, with strong communications skills.

**APPLICATIONS SPECIALIST 1 - POSITION CODE 1640**

Intermediate Level. Responsible for the design modifications for the customization of technical applications. (Pre-Post Sales) Duties may include:

- Provide technical liaison between end user and client and other development groups.
- Troubleshooting of end-user problems during implementation.
- May prepare cost estimates and quotations for customers.
- Technical support to sales, including technical demonstrations and client interface to project completion.

Typically requires a post-secondary education with 2 - 3 years industry experience, with strong communications skills.

**FIELD SERVICES LEAD - POSITION CODE 1650**

Responsible for developing, servicing and managing a territory of customers. Duties may include:

- Provide customers with technical direction and support on products, including hands on maintenance / operation and repair of these products.
- Maintain up-to-date knowledge on equipment and systems.
- Trains and directs other field service representatives.
- Trains customers on the operation and use of products.
- May provide installation, maintenance or repair services to product(s).
- Complete service reports, invoicing, and other administrative requirements.
- Monitor site safety during project completion.

Typically requires a technical college diploma, with 3+ year's related experience.

**FIELD SERVICES TECHNICIAN - POSITION CODE 1660**

Responsible for developing and servicing a territory of customers. Duties may include:

- Provide customers with technical direction and support on products, including hands on maintenance / operation and repair of these products.
- Trains customers on the operation and use of products.
- May provide installation, maintenance or repair services to product(s).
- Complete service reports, invoicing, and other administrative requirements.
- Monitor site safety during project completion.

Typically requires a technical college diploma, with 1 – 3 years related experience.

**FIRMWARE (Embedded Software) ENGINEERS**

Definition, design, development, systems engineering and testing of embedded software devices, (i.e. microprocessors and microchips) for various communication devices, and/or distributed real-time remote sensing and control systems or network applications typically for the telecommunications (wireless & VoIP), and avionics. Typical technology employed are ASIC, GPS, DSP, FPCA, and wireless protocols such as TDMA, GSM, GPRS.

**FIRMWARE ENGINEERING MANAGER - POSITION CODE 1705 (LEVEL F)**

Manage Firmware engineers who are responsible for the design and development of embedded software products and/or projects. Duties may include:

- Project planning, scheduling and tracking.
- Resource planning, managing the team.
- Responsible for deliverables from the team and accountability for team productivity.
- Responsible for the employment, training, and discipline of assigned employees.
- Leadership of multiple project teams of technical professionals, who could include project managers of smaller projects.
- Strong communication and management skills.

Typically requires a degree in Engineering (Electronic or Computer Applications) with broad industry experience, typically with an expert competence in structured and embedded software design and Object Oriented Design methodologies.

Minimum of 5+ years leadership and project experience.

**FIRMWARE ENGINEERING CONSULTANT - POSITION CODE 1708 (LEVEL F)**

Expert Level. Provides high-level technical expertise in the design and development of innovative embedded software.

Duties may include:

- Project planning, scheduling and tracking.
- Working independently, researches, designs, and develops state of the art embedded software products.
- May develop ground-breaking prototypes of embedded software for various software components and devices.
- Researches and defines innovative solutions to the most complex and technically challenging embedded software issues.
- Is generally recognized as a leader in his/her technical specialty.
- May provide mentoring and coaching to other technical employees.

Typically requires a degree in Engineering (Electronic or Computer Applications) with broad engineering experience, typically with an expert competence in structured and embedded software design and Object Oriented Design methodologies and knowledge of wireless advanced protocol and knowledge of a variety of cellular protocols. (TDMA, GSM, GPRS etc.)

**FIRMWARE ENGINEER 5 - POSITION CODE 1710 (LEVEL E)**

Specialist Level. Develops new or innovative engineering applications in the design and development of unique or complex, embedded software development projects. Duties may include:

- Responsible for the technical integrity of major development projects, often responsible for the management of resources for these projects.
- Responsible for quality assurance of program design and development.
- Develops project plans, schedules and estimates of moderate complexity, employing project management capabilities.
- May provide technical leadership for more junior staff.

Typically requires a degree in Engineering (Electronic or Computer Applications) with minimum 10 - 12 years industry experience, typically with an expert competence in structured and embedded software design and Object Oriented Design methodologies. Typically expert in C or C++ and Assembly programming languages with extensive experience with programmable logic, device drivers, hardware interfaces, logic analyzers and/or in-circuit emulators, and cellular protocols (TDMA, GSM, GPRS).

**FIRMWARE ENGINEER 4 - POSITION CODE 1720 (LEVEL D)**

Senior Level. Designs and develops complex embedded software products that require the development of new engineering approaches or diagnostics. Duties may include:

- Undertakes difficult design and modification projects, often responsible for managing the resources for a small project team.
- Responsible for designing, writing and modifying communications and/or real-time embedded processes for complex products.
- Provides technical guidance and advice to other project team members.

Typically requires a degree in Engineering (Electronic or Computer Applications) with 7 - 8 years industry experience, typically with competence in structured and embedded software design and Object Oriented Design methodologies.

Typically expert in C or C++ programming with experience with programmable logic, device drivers, hardware interfaces, logic analyzers and/or in-circuit emulators, and cellular protocols (TDMA, GSM, GPRS).

**FIRMWARE ENGINEER 3 - POSITION CODE 1730 (LEVEL C)**

Fully Competent Level. Designs and develops embedded software products, requiring familiarity with a broad range of engineering methods and techniques. Duties may include:

- Undertakes difficult design and modification problems.
- Performs requirement analysis, architectural design, high-level design, coding, testing and other activities related to embedded software development.

Requires a degree in Engineering (Electronic or Computer Applications) with 5 - 6 years experience in embedded software design and C or C++ programming or related software development activities, (CMM, UML, and CASE), familiar with hardware interfaces and device drivers, with software debugging experience. Knowledge of cellular protocols (TDMA, GSM, GPRS).

**FIRMWARE ENGINEER 2 - POSITION CODE 1740 (LEVEL B)**

Intermediate Level. Designs and develops or design modification of embedded software products, using a variety of standard engineering methods and techniques. Duties may include:

- Works in the design and testing of a component of a larger design project.
- Implement standard logic designs.
- Performs coding debugging and testing of firmware products.

Typically requires a degree in Engineering (Electronic or Computer Applications) with 2 - 3 years experience in embedded software design and C or C++ programming or related software development activities familiar with hardware interfaces and device drivers. Knowledge of cellular protocols (TDMA, GSM, GPRS).

**FIRMWARE ENGINEER 1 - POSITION CODE 1750 (LEVEL A)**

Developmental Level. Designs and develops or design modification of embedded software products. Duties may include:

- Performs routine coding debugging and testing of firmware products.
- Responsible for routine technical decisions within clearly defined procedures or precedents.

Typically requires a degree in Engineering (Electronic or Computer Applications) with limited industry experience.

**TECHNOLOGISTS**

**Involved in the development and maintenance of electronic/electro-mechanical systems or other engineering related products.**

**TECHNOLOGIST LEAD - POSITION CODE 1805**

Supervisory Level. Responsible for supervision of employees who perform design, development, construction and testing of development equipment, products and assemblies. Duties may include:

- Oversees the detailed design process for equipment and new components.
- Ensures that work meets company standards and schedules.
- Responsible for the recruiting, training, employee motivation and discipline of assigned employees.
- Develops or directs the set-up of test equipment and the conduct of appropriate tests on new, prototype or experimental units.
- Reviews and summarizes test results, reports trends to manufacturing to improve on poor performance of components and products.
- Develops studies and performs non-repetitive research regarding materials or parts needed for design or enhancements.
- May liaise with customer services and interface with clients in troubleshooting equipment or product problems.

Typically requires post-secondary education in an electrical, electro-mechanical or mechanical discipline with a minimum of 10 + years directly related experience.

**TECHNOLOGIST 4 - POSITION CODE 1810**

Expert Level. Assists in the design, development, construction and testing of development equipment, products and assemblies. Duties may include:

- Develops detailed designs for new equipment or components.
- Develops or directs the set-up of test equipment and the conduct of appropriate tests on new, prototype or experimental units.
- May work with customer services and interface with clients in troubleshooting equipment or product problems.
- Develops studies and performs non-repetitive research regarding materials or parts needed for design or enhancement.

Typically requires post-secondary education in an electrical, electro-mechanical or mechanical discipline with a minimum of 8 + years directly related experience.

**TECHNOLOGIST 3 - POSITION CODE 1820**

Senior Level. Performs a variety of complex electronic technical functions related to the development or of electronic or electro-mechanical systems or circuitry. Duties may include:

- Performs operational tests and fault isolation on systems and equipment to ensure conformance with design specifications.
- Provides design details where necessary.
- Recommends modifications to designs to support development or troubleshooting activities.
- Utilizes a wide variety of developmental tests or diagnostic equipment to monitor, test and troubleshoot complex or complete systems and identify and perform repairs.

Typically required is technical school graduation with a minimum of 5 years directly related work experience in technical development.

**TECHNOLOGIST 2 - POSITION CODE 1830**

Intermediate Level. Performs moderately complex activities related to development and or maintenance of electronic or electro-mechanical systems. Duties may include:

- Assists in general research work.
- Conducts tests and detailed experimentation to collect development data or resolve client problems or make repairs.
- Assists in prototype fabrication and assembly and testing.
- Performs construction, troubleshooting, and repair of standard and test equipment.

Typically requires Technical school graduation with 3 - 5 years experience is required.

**TECHNOLOGIST 1 - POSITION CODE 1840**

Developmental Level. Performs routine functions related to electronic or electro-mechanical development and or maintenance activities. Duties may include:

- Performs routine operational tests on development systems and equipment to ensure compliance with design specifications.
- Diagnoses and isolates malfunctions down to component level.
- Conducts defined engineering tests as required.

Typically requires Technical school graduation with 2 years electronics experience is required.

<p><b>QUALITY ASSURANCE</b></p> <p>Provides advanced product and operating system environment knowledge, and guidance for the purpose of thoroughly testing company products and application systems, May use Automated Software Quality (ASQ) tools.</p>
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**QUALITY ASSURANCE MANAGER - POSITION CODE 1910**

Management Level. Responsible for the development and implementation of programs that ensure all products and services and projects meet client requirements, in addition to company standards. Duties may include:

- Ensures all Quality Assurance requirements, including inspection and testing of "in progress" and completed systems and installations are in compliance.
- Develops and implements best practices and methods for product development and implementation.
- Works closely with technical team to develop testing plans.
- Performs audits on projects against Quality Assurance. Maintains audits and surveillance records and follows up.
- Defect management and change control.
- Resource planning, managing the team.
- Responsible for deliverables from the team and accountability for team productivity.
- Responsible for the employment, training, and discipline of assigned employees.

Typically requires an undergraduate degree with an extensive quality assurance background and several years leadership experience.

**QUALITY ASSURANCE ANALYST 4 - POSITION CODE 1915**

Specialist Level. Responsible for designing processes and procedures and training programs to ensure high levels of Quality Assurance for products, services and projects. Duties may include:

- Develops and implements best practices and methods for design and implementation.
- Document discrepancies and work with other technical personnel on the resolution.
- Select common testing tools that will become the standard for ensuring products are accurately and thoroughly tested.
- Make recommendations on QA standards and procedures.
- Assist in planning and managing major quality assurance efforts.
- Provide technical guidance and training for other QA analysts.

Typically requires an undergraduate degree with a minimum of 6 years quality assurance work experience.

**QUALITY ASSURANCE ANALYST 3 - POSITION CODE 1920**

Senior Level. Responsible for establishing and executing test plans and procedures that will deliver a product within established specifications. Duties may include:

- Thoroughly testing software to ensure proper operation and freedom from defects.
- Document discrepancies and work with other technical personnel on the resolution.
- Select common testing tools that will become the standard for ensuring products are accurately and thoroughly tested.
- Assist in planning and managing all quality assurance efforts.

Typically requires an undergraduate degree with 4 - 6 years quality assurance work experience.

**QUALITY ASSURANCE ANALYST 2 - POSITION CODE 1930**

Intermediate Level. Responsible for ensuring that products and services meet organization standards and end-user requirements. Duties may include:

- Thoroughly testing software to ensure proper operation and freedom from defects.
- Inspects specifications for inaccuracies and completeness.
- Writes and executes test plans using technical specifications.
- Logs and tracks defects and enhancements for assigned products.
- Write specifications when needed.
- Verifies that any problems are resolved.

In addition to 3 – 5 years of product development lifecycle and testing, typically requires an undergraduate degree in a technical field.

**QUALITY ASSURANCE ANALYST 1 - POSITION CODE 1940**

Developmental Level. Responsible for inspecting and testing products and services against organization standards and end-user requirements. Duties may include:

- Selects products for testing.
- Assists in inspecting and testing products at various stages of production.
- Compiles and evaluates statistical data to determine and maintain quality and reliability of products.

In addition to an undergraduate degree, this position typically requires at least 2 years of technical experience.

**RELEASE MANAGER- POSITION CODE 1950**

The release manager's main goal is to manage the rollout of the product. The release manager coordinates the release with operations or media control. Responsible for and ensures the smooth deployment from the development teams to sales and or the operations team. Primary responsibilities will be to work with developers, release analysts and operations team members to ensure software deployments to test and production environments are of the highest quality. Duties may include:

- Creating a release plan and certify release candidates for shipment or deployment.
- Master Documentation updates.
- Definitive Software Library updates.
- Communication and enforcement of Operational Standards.
- Release Readiness Reviews.
- Post Implementation Reviews.
- Maintenance and development of departmental Release Management procedures.

Typically has an undergraduate degree in computing Science or Business with a minimum of 7 years work experience in technology based organizations. Also requires knowledge of system development life cycle and project management processes, experience in project management and excellent communication skills

**COMPUTER/HARDWARE SUPPORT**

Involved in support of troubleshooting, repair, installing, and upgrading computer hardware, peripherals, and other telecommunication or instrumentation devices, or hardware.

**COMPUTER/HARDWARE LEAD - POSITION CODE 2005**

Supervisory Level. Responsible for supervision of staff and projects in the troubleshooting, repair, and upgrade of computer equipment and other hardware. Duties may include:

- Determine vendors for outside repairs and coordinate warranty repairs.
- Troubleshoot problems on all workstations and printers.
- May provide desk-side training in operating hardware and software.
- May provide service on customer sites.

Typically requires post-secondary diploma or degree, necessary equipment certification and 5 + years directly related experience plus a minimum of 18 months supervision experience of projects and people.

**COMPUTER/HARDWARE TECHNICIAN 3 - POSITION CODE 2010**

Senior Level. Responsible for most complex troubleshooting, repair and upgrade of computer equipment and other hardware. Duties may include:

- Determine vendors for outside repairs and coordinate warranty repairs.
- Troubleshoot problems on all workstations and printers.
- May provide desk-side training in operating hardware and software.
- May provide service on customer sites.

Typically requires post-secondary diploma or degree, necessary equipment certification and 3 + years directly related experience.

**COMPUTER/HARDWARE TECHNICIAN 2 - POSITION CODE 2020**

Intermediate Level. Responsible for troubleshooting, repair and upgrading of computer equipment and other hardware. Duties may include:

- Determine vendors for outside repairs and coordinate warranty repairs.
- Troubleshoot problems on computers, peripherals or telecommunication devices.
- May provide desk-side training in operating hardware and software.
- May provide service on customer sites.

Typically requires post-secondary diploma or degree, necessary equipment certification and 1 - 2 years directly related experience.

**COMPUTER/HARDWARE TECHNICIAN 1 - POSITION CODE 2030**

Developmental Level. Responsible for troubleshooting, repair and upgrading of computer equipment and other hardware. Duties may include:

- Assembles and configures computers and peripherals.
- Installs operating system and purchased software packages.
- Installs necessary drivers for required component and tests its functionality.
- Performs routine equipment maintenance and upgrading tasks.
- Troubleshoots basic equipment problems & refers more complex problems to experienced staff.

Basic knowledge of computer hardware, and components with minimum of Grade 12 education plus training in specific hardware installation and maintenance.

**MULTI-MEDIA (New Media)**

Provides creative content, design, and production for new media projects.

**GRAPHIC DESIGNER LEAD - POSITION CODE 2102**

Team Lead Level. Supervises the production of graphic designs in response to end-user requests. Duties may include:

- Prepares complex layouts and designs according to user specifications.
- Ensures that graphic design work meets company standards and schedules.
- Responsible for the recruiting, training, employee motivation and discipline of assigned employees.
- Uses a variety of marketing vehicles, including print advertisements, brochures, direct mail, and web advertising.
- Additional duties may include administrative tasks such as project tracking and purchase orders.

Typically has post-secondary education with minimum of 8 years of industry experience including thorough knowledge of graphic design programs such as Adobe Illustrator, Quark, PhotoShop, animation programs or 3 - D simulation experience. Multimedia and HTML experience. Also has some supervisory experience.

**GRAPHIC DESIGNER 3 - POSITION CODE 2100**

Expert Level. Develops highly complex graphic designs in response to end-user requests. Duties may include:

- Prepares complex layouts and designs according to user specifications.
- Prepare alternative designs for graphics and make recommendations for programs.
- Uses a variety of marketing vehicles, including print advertisements, brochures, direct mail, and web advertising.
- May provide technical guidance to other Graphic Artists.

Typically has post-secondary education with minimum of 6 years of industry experience including thorough knowledge of graphic design programs such as Adobe Illustrator, Quark, PhotoShop, animation programs or 3 - D simulation experience. Multimedia and HTML experience.

**GRAPHIC DESIGNER 2 - POSITION CODE 2105**

Senior Level. Develops complex graphic designs in response to end-user requests. Duties may include:

- Prepares complex layouts and designs according to user specifications.
- Prepare alternative designs for graphics and make recommendations for programs.

Typically has post-secondary education with minimum of 4 years of industry experience including thorough knowledge of graphic design programs such as Adobe Illustrator, Quark, PhotoShop, animation programs or 3 - D simulation experience.

**GRAPHIC DESIGNER 1 - POSITION CODE 2110**

Intermediate Level. Develops graphic designs in response to end-user requests. Duties may include:

- Prepares layouts and designs according to user specifications.
- Prepare alternative designs for graphics and make recommendations for programs.

Typically has post-secondary education with 1 - 2 years of industry experience including knowledge of graphic design programs such as Adobe Illustrator, Quark, PhotoShop, animation programs or 3 - D simulation experience.

**ART DIRECTOR - POSITION CODE 2115**

Fully Competent. Prime responsibility is to provide creative direction and leadership through the development, design, production and presentation of interactive projects. Duties may include:

- Develops design specifications for a number of projects, (multiple styles).
- Develops initial design concepts, strategic design direction and company identity systems.
- Ensures that visual and brand identity are reinforced by all graphic design efforts.
- Confers with clients and senior management to provide creative input to projects

Typically has Bachelors degree in graphic design, with several years related experience. Familiar with a wide variety of media and presentation techniques and computer based design tools.

**CREATIVE DIRECTOR - POSITION CODE 2120**

Fully Competent. Manages and directs the creative staff and function to implement and produce cost effective approaches. Duties may include:

- Responsible for the conception and development of new promotion strategies for print, broadcast, e-commerce and related media.
- Develops creative solutions and overall strategies to address client requirements. Integrates and coordinates internal and external resources.

Typically has Bachelors degree in graphic design, with extensive experience with design, copy, media, and production activities and the ability to manage creative projects from concept through implementation.

**SENIOR ANIMATOR - POSITION CODE 2122**

Senior Level. Directs character and prop animation, along with designers, may create motion trees, plans and aids in motion capture shoots, and may manage motion capture inventory. Duties may include:

- Supervises project animators.
- Identifies and develops solutions to animation problems.

Typically has advanced understanding of motion principles and/or technical training in area such as Computer Science or classical animation. Advanced knowledge and experience in realistic character modeling, motion-capture editing, and character animation skills. Maya, Mirai, 3D Studio Max, AliasPower Animator, fractual design painters, Photoshop, Illustrator, PC/MAC/SGI platforms.

**ANIMATOR - POSITION CODE 2125**

Fully Competent. Responsible for animation of character models. Duties may include:

- Creating graphical interfaces, 3D models/characters and character animation.
- Creating and executing art development plans.
- Scheduling and monitoring art deliverables.

Typically has advanced understanding of motion principles and/or technical training in area such as Computer Science or classical animation. Experience in realistic character modeling and character animation skills. Maya, Mirai, 3D Studio Max, AliasPower Animator, fractual design painters, Photoshop, Illustrator, PC/MAC/SGI platforms.

**SENIOR MODELER (2D, or 3D) - POSITION CODE 2127**

Senior Level. Responsible for creating the environments, character, sets, and props for major or complex types of projects and productions. Duties may include:

- Creating complex 2D texture and 3D models/characters.

Typically has advanced understanding of modeling graphic packages, with a strong art and design background. Extensive experience in realistic character modeling, and some general character animation skills. Maya, Mirai, 3D Studio Max, AliasPower Animator, fractal design painters, Photoshop, Illustrator, PC/MAC/SGI platforms.

**MODELER (2D, or 3D) - POSITION CODE 2128**

Fully Competent. Responsible for creating the environments, character, sets, and props for various types of projects and productions. Duties may include:

- Creating 2D texture and 3D models/characters.

Typically has advanced understanding of modeling graphic packages, with a strong art and design background. Experience in realistic character modeling, and some general character animation skills. Maya, Mirai, 3D Studio Max, AliasPower Animator, fractal design painters, Photoshop, Illustrator, PC/MAC/SGI platforms.

**WEB CONTENT LEADER/MANAGER - POSITION CODE 2130**

Responsible for the content management of web site(s), which includes direction of staff involved in developing web site content and development and delivery of web content to support client's E-commerce goals. Duties may include:

- Defining web site objectives and set and manage web site style and standards.
- Defining features and functionality, which need to be implemented by web development team.
- Working closely with client.
- Maintaining the editorial integrity of all Internet messaging.
- Assesses results of projects, budgets and schedules guidelines.
- Responsible for employment, training and discipline of assigned employees.

Typically has Bachelors degree in with 5+ years web content management experience. Demonstrated editing skills, editorial planning and project management experience.

**WEB CONTENT DEVELOPER 2 - POSITION CODE 2135**

Senior Level. Responsible for developing and producing content for web site, maintaining design style and consistency throughout sites. Duties may include:

- Applies extensive creative skills involving web flow and site organization and marketing communications techniques.
- Coordinates with Project team and related staff to develop, and implement Web site objectives, content, and applications.
- Interfaces directly with users, in-house writers, graphic artists, engineers, etc.
- May provide project leadership.

Typically has degree in journalism, graphic arts or computer related field, with 5+ related experience. (Page layout and graphic design experience.)

**WEB CONTENT DEVELOPER 1/COPYWRITER - POSITION CODE 2140**

Intermediate Level. Responsible for the development of targeted content for individual users or clients on complex web-based applications, websites, or other direct response advertising. Duties may include:

- Responsible for developing and executing direct response creative.
- Writer and editor of website content.
- Creation and/or gathering of content (visual, technical), style, navigation, etc.
- Development of specific business rules for specific application.
- Proof-reading and approvals for content of NIC web pages.
- May involve writing for other disciplines, including direct mail, interactive, and general media.

Typically requires working knowledge of HTML, JavaScript, Adobe Acrobat, MS Office. Working knowledge of graphic/animation software. Excellent communication skills – both written and verbal.

**NEW MEDIA PRODUCER - POSITION CODE 2150**

Fully Competent. Responsibility for the management and coordination of multi-media projects, working with a number of teams. Duties may include:

- Planning, scheduling, and overseeing the execution of a variety of new media projects including Website development, online advertising, online feature content, CD-Roms.
- Coordinating and managing project teams and resources.
- Creating estimates and timelines.
- Tracking and reporting project status.
- Facilitating communications amongst creative, account and technical groups on project related issues.

Typically has minimum of 5+ years production experience, with exceptional understanding of the interactive medium. Ability to communicate with both production and technical teams. Ability to use common productivity software, (i.e. MS Office, Filemaker Pro etc.).

**TELECOMMUNICATIONS**

**Involved in configuring, implementing, and maintaining voice, data, and network communications systems.**

**TELECOMMUNICATIONS MANAGER POSITION CODE 2203**

Provides guidance, coordination, and direction to department employees. Responsible for configuring, implementing and maintaining complex voice, data and network communications systems. Duties may include:

- Trains, instructs, and orients employees in proper procedures, operations, and methods.
- Provides technical leadership and guidance as required.
- Involved in the planning and design of complex communications systems.
- Monitors communications performance using visual, diagnostic equipment status indicator checking methods etc. to locate problems.
- Responds to local area network (LAN) and wide area network (WAN) user requests for system upgrades and changes.
- May provide maintenance support for various systems such as electronic mail, message centers, or other computer-automated communications systems.

Typically has post-secondary formal technical training with several years of related experience.

**TELECOMMUNICATION SUPERVISOR - POSITION CODE 2205**

Provides guidance, coordination, and direction to department employees. Duties may include:

- Trains, instructs, and orients employees in proper procedures, operations, and methods.
- Provides technical leadership and guidance as required.
- Monitors communications performance using visual, diagnostic equipment status indicator checking methods etc. to locate problems.
- Responds to local area network (LAN) and wide area network (WAN) user requests for system upgrades and changes.

Typically has post-secondary formal technical training and min 5+ years related experience. Ability to supervise employees in performing field service activities.

**TELECOMMUNICATION TECHNICIAN 3 - POSITION CODE 2210**

Fully Competent Level. Under the general direction of lead technician-configures, implements and maintains voice data and network communications systems. Duties may include:

- Assists in planning and designing of communications systems.
- Monitors communications performance using visual, diagnostic equipment status indicator checking methods etc. to locate problems.
- Utilizes electronic and telephone equipment, punch tools, and cabling tools.
- Responds to local area network (LAN) and wide area network (WAN) user requests for system upgrades and changes.
- May provide maintenance support for various systems such as electronic mail, message centers, or other computer-automated communications systems.

Typically has post-secondary formal technical training and 5+ years related experience.

**TELECOMMUNICATION TECHNICIAN 2 - POSITION CODE 2220**

Intermediate Level. Under the direct routine of a Sr. Telecommunication technician, configure, implement and maintain voice data and network communications systems. Duties may include:

- Monitors communications performance using visual, diagnostic equipment status indicator checking methods etc. to locate problems.
- Utilizes electronic and telephone equipment, punch tools, and cabling tools.
- Responds to local area network (LAN) and wide area network (WAN) user requests for system upgrades and changes.
- May provide maintenance support for various systems such as electronic mail, message centers, or other computer-automated communications systems.

Typically has post-secondary formal technical training and 2+ years related experience.

**TELECOMMUNICATION TECHNICIAN 1 - POSITION CODE 2230**

Developmental Level. Under close direction of a Sr. Telecommunication technician, configure, implement and maintain voice data and network communications systems. Duties may include:

- Monitors communications performance using visual, diagnostic equipment status indicator checking methods etc. to locate problems.
- Utilizes electronic and telephone equipment, punch tools, and cabling tools.
- Responds to local area network (LAN) and wide area network (WAN) user requests for system upgrades and changes.
- May provide maintenance support for various systems such as electronic mail, message centers, or other computer-automated communications systems.

Typically has post-secondary formal technical training and minimal related experience.

**TELECOM SYSTEMS ENGINEER - POSITION CODE 2240**

The Systems Engineer defines and analyzes product needs, documents and manages product requirements, and performs system architecture, design and validation. Duties may include:

- Works with engineering, marketing and customers to define system and product functionality, performance requirements, cost constraints, etc.
- Analyzes competitive and complementary products.
- Analyzes product marketing requirements and writes system requirements documentation.
- Keeps updated on applicable technologies including devices, (microprocessors, MPEG decoders, graphics, microprocessors etc.), real time operating systems and middleware solutions.

Typically has Bachelors degree in Electrical Engineering, Computer Science, or Systems Engineering, with 3+ years experience developing complex electronic (hardware/software) products and experience with real time embedded systems, digital video and audio, digital communications, network protocols, and set top boxes.

**CONTINUITY MANAGEMENT/DISASTER RECOVERY**

**Involves the processes and procedures an organization puts in place to ensure that essential functions can continue during and after an interruption or disaster. Business continuance planning seeks to prevent interruption of mission-critical services, and to reestablish full functioning as swiftly and smoothly as possible.**

**DIRECTOR BUSINESS CONTINUITY/DISASTER RECOVERY- POSITION CODE 2305**

Provides leadership to the organization to ensure an effective business continuity (BC) strategy and plan is in place.

Duties may include:

- Develops the organizations business continuity strategy and/or disaster recovery plan.
- Develops and implements policy, procedures and reporting structures for the organization's BCP/DRP area.
- Ensures communication of the organization BC plan to appropriate parties.
- Interfaces with other risk management disciplines in the organization, and supply chain suppliers.

Typically has Bachelors Degree, with 10+ years in business continuity and/or disaster recovery in addition to management experience.

**BUSINESS CONTINUITY/DISASTER RECOVERY PROJECT MANAGER - POSITION CODE 2325**

Specialist Level. Responsible for the facilitation and implementation of Business Continuity and/or Disaster Recovery projects. Duties may include:

- Develops/conducts disaster readiness assessments, and establish corrective plans.
- Reviews emergency communications, back-ups and disaster recovery assets.
- Ratifies design of existing contingency plan.
- Ensures written disaster recovery plan is in place for key servers and others.
- Project management of network maintenance and restoration and recovery plans.
- Oversees disaster exercises.

Typically has Bachelors Degree, with 2 - 5 years project management and minimum of 7 years in disaster planning.

**BUSINESS CONTINUITY/DISASTER RECOVERY 2 - POSITION CODE 2310**

Senior Level. Responsible for managing the business continuity and/or disaster recovery risk assessment and minimization projects for the organization. Duties may include:

- Designs, develops, and implements plan testing, education and awareness programs.
- Designs, develops, and implements business continuity tools including methodologies, templates and the applied use of information technology and communication devices.
- Responsible for overseeing compliance for the business unit, location or product line.

Typically has Bachelors Degree, with 5+ years in business continuity and/or disaster recovery.

**BUSINESS CONTINUITY/DISASTER RECOVERY 1 - POSITION CODE 2320**

Fully Competent Level. Responsible for developing the business continuity and/or disaster recovery risk assessment and minimization projects for a specific business unit or location. Duties may include:

- Identifies and initiates computer and communications technology opportunities to enhance the accuracy and effectiveness of continuity plan development.
- May be responsible for overseeing compliance for the business unit, location or product line.
- Researches, analyze and share best practice information.

Typically has Bachelors Degree, with 3 - 5 years in business continuity and/or disaster recovery.

**SYSTEMS DISASTER RECOVERY ANALYST - POSITION CODE 2327**

Fully Competent. Responsible for the implementation of Disaster Recovery projects for Information systems. Duties may include:

- Produce business resumption plan.
- Review design of existing contingency plan.
- Produce written disaster recovery plan for key servers and others.
- Formulation of test plans.
- Conducts disaster readiness assessments, and establish corrective plans.
- Develops network restoration and recovery plans.

Typically has Bachelors Degree in IT or Business and 4 - 5 years in disaster planning.

**INFORMATION SECURITY MANAGER - POSITION CODE 2328**

Management Level. Responsible for application security architect: policy, architecture, implementation guidance, compliance, and process definition to protect the confidentiality and integrity of information, and maintain the technical mechanisms of legitimate access to it. Duties may include:

- Documenting the information security policies and procedures instituted by the organization's Information Security Committee.
- Dealing with senior management on all issues of security, including the creation of internal security organizations and implementing the organization's information security policies and procedures.
- Providing direct information security training to all employees, contractors, alliances, and other third parties.
- Monitoring compliance with the organization's information security policies and procedures among employees, contractors, alliances, and other third parties, and referring problems to appropriate department managers or administrators.
- Monitoring internal control systems to ensure that appropriate information access levels and security clearances are maintained.
- Performing information security risk assessments and serving as the internal auditor for information security processes.
- Monitoring advancements in information security technologies.
- Initiating, facilitating, and promoting activities to foster information security awareness within the organization
- Reviewing all system-related information security plans throughout the organization's network.

Typically has Bachelors Degree, with 10+ years in information security in addition to management experience.

**INFORMATION SECURITY ARCHITECT - POSITION CODE 2329**

Senior Level. Responsible for architecture design and implementation of all types of security risk assessment and control systems for organization. Duties may include:

- Leads the design and implementation of new security systems, monitoring and maintaining existing systems, resolving complex issues, problem determinations, optimizing performance, and implementing protocols for disaster recovery and security.
- Formulate, define and implement procedures that are necessary to ensure the safety of corporate and /or customer data.
- Interface with departments and/or clients to understand security needs and architect, design and implement networks, security controls, procedures and technologies to accommodate these.
- Implementation of security policies and procedures for security issues.

Typically has post-secondary education with 8 plus experience with security system protocols, and security issues.

**INFORMATION SECURITY ANALYST 2 - POSITION CODE 2330**

Senior Level. Responsible for all types of security issues relating to administrative, procedural, hardware, software and communications components, operations, and disaster recovery for organization. Duties may include:

- Develops or modify systems or procedures to solve complex problems, balancing business needs against potential risks.
- Troubleshoots and resolves security integration problems within the organization.
- Ability to select, tailor and implement a security framework for the organization.
- Ability to interpret and communicate Risk Management concepts.
- Development and implementation of security policies and procedures for all security issues.

Typically has post-secondary education with 5 or 6 years experience with private and public sector organizations, systems, and security issues.

**INFORMATION SECURITY ANALYST 1 - POSITION CODE 2335**

Intermediate Level. Responsible for various types of security issues relating to administrative, procedural, hardware, software and communications components, operations, and disaster recovery for organization. Duties may include:

- Performing threat and risk assessments (TRA).
- Security reviews and audits against established configurations, policies, or procedures.
- Development of statements of sensitivities (SOS) and vulnerability assessments.

Typically has post-secondary education with 3-4 years experience with private and public sector organizations, systems, and security issues.

## ENGINEERING - GENERAL

When you report your individual salary data for each incumbent (on the cash spreadsheet), please identify the particular discipline of their role. The options are:

Specialty/Discipline– (CHM) Chemical, (CIV) Civil, (ELC) Electrical, (ENV) Environmental, (MEC) Mechanical, (MIN) Mining, (PET) Petroleum, (PRC) Process, (PRJ) Project

**ENGINEERING SENIOR MANAGEMENT/EXPERT (Level F+) - POSITION CODE 2410**

Senior Management Level or Industry Expert. Responsible for long range planning, coordination, making specific and far-reaching management decisions, OR may be acknowledged expert specialist within industry and company. Duties may include:

- Plans and implement engineering strategies and activities.
- Manages and conducts engineering development and technical programs to improve products and processes.
- Determines and establishes goals, scope, approaches, and budgets to accomplish overall objectives and goals.
- May lead a large professional engineering function or department or a group of highly specialized technical specialists.
- As an industry expert, may work independently, researches designs and develops state of the art products or researches and defines innovative solutions to the most complex and technically challenging issues.

Typically has a bachelor degree in Engineering, with 15+ years broad engineering experience, with a significant amount of experience in a management or leadership role.

**ENGINEERING MANAGER (Level F) - POSITION CODE 2415**

Management Level or Expert. Plans, organizes, directs and controls the work activities and staff of an engineering or technical function OR may be acknowledged as company expert in a particular field or discipline. Duties may include:

- Manages the operation of functional engineering or research/development to provide timely technical development, support or services, which lead to improved products, increased output and/or reduced costs.
- Determines and establishes goals, scope, approach, schedules and manpower requirements to accomplish overall objectives and/or program results.
- Generates, prepares, presents and reviews departmental or program budgets and monitors performance by business units.
- Evaluates technical progress of projects to ensure sound application of scientific and engineering principles and adequate exploratory research to support the highest possible performance of the end product.
- Prepares and presents reports outlining the progress and outcome of technical projects and makes pertinent recommendations to implement desired results.
- As an expert, provides advanced technical advise, often developing solutions for very complex or unique problems.
- May act as engineering consultant and advisor to the company.
- May lead a group of technical specialists.

Minimum of a bachelor's degree in engineering plus 12+ years of increasingly complex technical assignments and applications, including with supervisory experience.

**ENGINEER (Level E) - POSITION CODE 2420**

Specialist Level. Designs and develops new or innovative engineering approaches and techniques in the design and development of complex projects. Duties may include:

- Responsible for the technical integrity of major, technically complex projects, often responsible for the management of resources for these projects.
- Analyzes, evaluates, and plans methods of approach and organizes means to achieve solution of complex technical problems.
- Conducts investigations and tests of considerable complexity, projects progress and evaluate results.
- Specifies materials, equipment and supplies required for completion and implementation of technical projects.
- May provide technical leadership or supervision for engineering staff.

Minimum of a bachelor's degree in engineering plus 10 – 12 years of related experience.

**ENGINEER (Level D) - POSITION CODE 2425**

Senior Level: Plans and directs projects or phases of projects within an assigned engineering functional area and provides technical direction to and coordinates the efforts of engineering staff. Duties may include:

- Develops and applies advanced scientific and/or engineering theories, methods, and research techniques in the investigation and solution of complex technical problems.
- Analyzes, evaluates, and plans method of approach and organizes means to achieve the solution of problems.
- Develops project plans, schedules and estimates of moderate complexity, employing project management capabilities.
- Interprets and evaluates test data and results of investigations and develops appropriate recommendations.
- Recommends necessary corrections in technical analyses and design to ensure successful project completion.
- Undertakes difficult design and modification projects, often responsible for managing the resources for a small project team.
- Works independently in performing in-depth analysis, interpretation and recommendation of technical solutions.

University degree in engineering. Has a minimum of 7 – 8 years of related experience.

**ENGINEER (Level C) - POSITION CODE 2430**

Full Competent Level, Full technical responsibility for planning, organizing, and conducting technical reports requiring familiarity with a broad range of engineering methods and techniques. Duties may include:

- Conducts independent investigation involving the original application of the principles of engineering, in the origination or modification of material, component, or process specifications and requirements.
- Prepares design specifications, analyses, and recommendations for presentation and approval.
- Undertakes difficult design and modification problems.
- Works independently in performing in analysis and the interpretation of results.
- May provide work guidance to more junior technical staff within the scope of a specific project.

Typically has University degree in Engineering with a minimum of 5 – 6 years of related experience and eligibility for P.Eng.

**ENGINEER (Level B) - POSITION CODE 2435**

Intermediate Level. Design and development or design modification, using a variety of standard engineering methods and techniques. Duties may include:

- Works in the design and testing of a component of a larger design project.
- Performs independent studies, analyses, interpretations and conclusions within the scope of various assigned projects.
- Responsible for routine technical decisions within established guidelines.

Requires a degree in Engineering with minimum 2 - 3 years related industry experience.

**ENGINEER (Level A) - POSITION CODE 2440**

Developmental Level. Engineer in Training performing a variety of tasks involving the application of basic engineering/scientific principles to assigned problems. Duties may include:

- Preparation of simple designs, calculations and design specifications.
- Responsible for routine technical decisions within clearly defined procedures or precedents.
- Obtains, correlates, and analyzes technical information needed to accomplish assigned tasks.
- Prepares reports, charts, graphs, and other documents and makes recommendations to senior staff.
- Prepares simple plans, designs, calculations, costs and bills of material, catalogues, in accordance with established codes, standards, drawings or other specifications.

Typically requires Bachelor's degree in Engineering with less than 2 years of related experience.

**GEOMATICS (GIS)**

**Involved in the mapping, analysis and reporting needs providing expert advice on the selection of data and technology for the solution of GIS problems including satellite imagery**

**GIS MANAGER - POSITION CODE 2505 (NEW)**

Responsible for managing Mapping and GIS department operations, providing leadership and mentorship to GIS staff and management. Duties may include:

- Submits annual departmental budget, determines yearly goals, and delegates responsibility and accountability within the department to obtain goals.
- Develops internal and external GIS strategies, including acquisition of GIS resources (Software, hardware).
- GIS project management and human resources allocation, including performance management, staffing, compensation, and succession planning for department.
- Research, develop and submit business proposals including RFP's, and acts as principle client liaison.
- Develop, and initiate GIS business marketing program for new client base development.

Qualifications include university degree in Geography, GIS, Engineering or related sciences with minimum five years demonstrated experience with GIS technologies, project management, and/or large mapping projects or software development projects or diploma from post-secondary institute in GIS applications with 7 years demonstrated experience, or equivalent combination of education and experience.

**GIS SPECIALIST - POSITION CODE 2510**

Senior Level. Perform project data maintenance, produce digital maps, database compilation, data conversion, and quality control using GIS and custom software.

- Providing expert guidance on the operation of multiple GIS related software and database management for the development and use of GIS applications.
- Participate in: project review/assessment; requirements gathering; analysis; and solution development.
- Develops, evaluate and maintain technical methodologies and quality control measures.
- Creates procedural and workflow documents for projects.
- Develops and conducts custom GIS training course for external clients.

Requires a Bachelor's Degree in Geomatics or a related discipline and 7+ years of experience.

**GIS DEVELOPER - POSITION CODE 2515**

Working Level. Responsible for supporting the development of systems technologies, GIS applications GIS programming, mapping and databases. Duties may include:

- Creating and maintaining corporate GIS systems, geospatial and attribute databases, and the application infrastructure to support user-developed GIS applications.
- Assists with infrastructure support to GIS systems to support corporate planning and decision-making.
- Assists external clients with technical support related issues.
- Providing support in the design and development of specifications and geo-spatial analysis applications

Typically has post-secondary education in computer systems technology from a recognized Institute of Technology with emphasis in computer programming with 3 - 4 years related experience.

**GEOMATICS TECHNICIAN 3 - POSITION CODE 2517 (NEW)**

Senior Level. Responsible for quality control of survey computations and plan preparation for oilfield surveys. Duties may include:

- Quality control of plans and survey computations.
- Reviews plans for accuracy.
- Interprets and analyzes field notes.
- Performs advanced calculations.
- Advanced level of competency in all calculations and plan requirements.
- Provides technical leadership to other technicians.

Qualifications include a degree or diploma in Geomatics from a recognized technical school two to four years of Geomatics experience including knowledge of GPS and proficiency with survey software, or equivalent combination of education and experience.

**GEOMATICS TECHNICIAN 2 - POSITION CODE 2518**

Fully Competent Level. Responsible for quality control of survey computations and plan preparation for surveys and mapping. Duties may include:

- GIS data analysis, file management, database management.
- Spatial data processing thematic mapping, database management, data collection and data input for a variety of geomatic projects.
- Creation of maps and geographical information products using precision measurements and software tools..
- Quality control of plans and survey computations.
- Interprets and analyzes field notes..

Qualifications include a degree or diploma in Geomatics from a recognized technical school plus 3 – 5 years experience including knowledge of GPS and proficiency with survey software, or equivalent combination of education and experience.

**GEOMATICS TECHNICIAN 1 - POSITION CODE 2520**

Developmental Level. Responsible for quality control of survey computations and plan preparation for surveys and mapping. Duties may include:

- Quality control of plans and survey computations.
- Reviews plans for accuracy.
- Interprets and analyzes field notes.
- Spatial data processing thematic mapping, database management, data collection and data input.
- Creation of maps and geographical information products using precision measurements.
- Performs advanced calculations.

Qualifications include a degree or diploma in Geomatics from a recognized technical school or two years Geomatics Technician experience including knowledge of GPS and proficiency with survey software, or equivalent combination of education and experience.

**LAND SURVEYORS (NEW)****SENIOR PROJECT MANAGER - POSITION CODE 2610 (NEW)**

Manager Level. Responsible for project management, direction and control of land surveying services technically sophisticated, complex projects. Duties may include:

- Managing any and all survey projects, including management of technical resources and people.
- Ensures gathering of accurate land survey data to fulfill contract specifications.
- Completes proposals, job costing, evaluation, and invoicing for complex projects.
- Provides leadership in evidence evaluation, survey methodology, error identification, evaluation and removal to survey operations staff.
- Accountable for safety polices and issues.

Qualifications include a degree in Geomatics or Surveying Engineering plus 10+ years varied experience in land development surveys or equivalent combination of education and experience. ALS, BCLS, CLS, SLS, MLS commission (or a commission from another province).

**SENIOR LAND SURVEYOR (PROJECT MANAGER) - POSITION CODE 2620 (NEW)**

Senior Level. Responsible for supervision, direction and control of land surveying services technically sophisticated, complex projects. Duties may include:

- Managing a variety of survey projects, including management of technical resources and people.
- Gathers accurate land survey data to fulfill contract specifications.
- Completes proposals, job costing, evaluation, and invoicing for a variety of projects.
- Provides leadership in evidence evaluation, survey methodology, error identification, evaluation and removal to survey operations staff.
- Accountable for safety polices and issues.

Qualifications include a degree in Geomatics or Surveying Engineering plus 6+ years varied experience in land development surveys or equivalent combination of education and experience. ALS, BCLS, CLS, SLS, MLS commission (or a commission from another province).

**LAND SURVEYOR 2 - POSITION CODE 2630 (NEW)**

Working Level. Responsible for supervision, direction and control of land surveying services related to a variety of projects. Duties may include:

- Managing smaller survey projects including management of technical resources and people, under supervision.
- Gathers accurate land survey data to fulfill contract specifications.
- Completes proposals, job costing, evaluation, and invoicing.
- Provides technical leadership in evidence evaluation, survey methodology, error identification, evaluation and removal to survey operations staff.

Qualifications include a degree in Geomatics or Surveying Engineering plus relevant experience or equivalent combination of education and experience. ALS, BCLS, CLS, SLS, MLS, commission (or a commission from another province).

**LAND SURVEYOR 1 - POSITION CODE 2635 (NEW)**

Developmental Level. Articling student, responsible for direction and control of land surveying services related to a variety of projects, with supervision. Duties may include:

- Managing survey projects under supervision of land surveyor.
- Some supervision responsibilities
- Assists with proposals, job costing, evaluation and invoicing.

Qualifications include a degree in Geomatics or Surveying Engineering plus relevant experience or equivalent combination of education and experience. Articling student In the process of obtaining ALS, BCLS, CLS, SLS, MLS, commission (or a commission from another province).

**PARTY CHIEF 3 - POSITION CODE 2640 (NEW)**

Senior Level. Land surveyor in training or qualified articling students working under supervision. Responsible for crew performing oilfield, and legal surveying in the completion of large complex projects, through the application of technical knowledge and the optimal utilization of staff and equipment. Duties may include:

- Coordinates crew, coaches and mentors junior surveyors.
- Provides directions on the safe operation of all types of survey equipment including Total stations, Data collectors, Static GPS, Differential GPS, RTK GPS, Precision Measuring Devices
- Records time sheets and equipment usage reports.
- Ensure compliance with WCB regulations, company safety policies and communicate safety issues.
- Ensure equipment and tools are well maintained and free of defects.

Qualifications include a degree or diploma in Geomatics from a recognized technical school, with 3 – 5 years experience as a Junior Party Chief, or equivalent combination of education and experience.

**PARTY CHIEF 2 - POSITION CODE 2645 (NEW)**

Working Level. Leads a crew performing oilfield, and legal surveying. Duties may include:

- Accomplishes majority of survey tasks with limited interaction from supervisors and Land Surveyors.
- Organizes field survey party in remote locations.
- Ensure compliance with WCB regulations, company safety policies and communicate safety issues.

Qualifications include diploma from post-secondary institute, and 2 years as junior party chief or equivalent combination of education and experience.

**PARTY CHIEF 1 - POSITION CODE 2648 (NEW)**

Junior Level. Leads a crew, under supervision, performing oilfield, and legal surveying. Duties may include:

- Performs line locating duties, stakes right-of-ways and layouts unsupervised.
- Produces sufficient survey notes and all required paperwork, assess survey evidence with limited assistance from Land Surveyors.
- Ensure equipment and tools are well maintained and free of defects.

Qualifications include diploma in Geomatics or equivalent combination of education and experience (limited experience), or 6 months experience as senior survey assistant.

**SURVEY ASSISTANT 2 - POSITION CODE 2650 (NEW)**

Working Level. Responsible for assisting a Party Chief in performing oilfield, and legal surveying for all projects. Duties may include:

- Full use of all survey equipment, measures angles, distances competently, performs basic survey note keeping (without supervision).
- Determines exact geographic locations by map and/or GPS, using more advanced survey skills.
- Measure angles and distances.
- Performs line locating techniques including stakes rights of way, post monuments, line locates.
- Operates power saws and maintains operation.

Qualifications include completed courses in Geomatics from a recognized technical school plus 6 months to 1 yr related experience or equivalent combination of education and experience.

**SURVEY ASSISTANT 1 - POSITION CODE 2655 (NEW)**

Junior Level. Responsible for assisting a Party Chief in performing routine oilfield, and legal surveying under supervision. Duties may include:

- Operates some communication equipment, vehicles (with training, 4x4 truck, quad, snowmobile, Argo).
- Operates power saw under supervision.
- Maintains equipment.
- Determines approximate geographic locations by map and/or GPS, using basic survey skills.
- Performs basic line locating techniques.
- Maintains and tools, survey equipment and survey trucks.

Qualifications include a high school diploma and limited experience.

**TECHNICAL OFFICE MANAGER - POSITION CODE 2660 (NEW)**

Management Level. Manages overall business operations of the office, by planning, organizing, and managing the activities of all employees. Accountable for leadership, budgeting, profitability, losses, staffing levels, product quality, client services and safety. Duties may include:

- Establishes objectives and operating policies for the area.
- Coordination of specialized staff on a project basis.
- Conducts performance reviews and sets salary increases with all department managers.
- Manages annual budgeting process.
- Oversees all administrative and technical aspects of office.

Qualifications include post-secondary education, business education, as well as land surveyor commission or knowledge of Professional Association requirements. 8 – 10 years related experience with project management and supervisory responsibility working directly in the Survey industry, or equivalent combination of education and experience.

**FIELD OPERATIONS MANAGER - POSITION CODE 2670 (NEW)**

Supervisory/Management Level. Responsible for managing the day-to-day operations of the field crews for the office. Duties may include:

- Delegates workloads to the field staff and maintains communication with field clients.
- Advises the Technical Office Manager on matters concerning the field operations.
- Communicates the need for hiring, compensation to the Technical Office Manager.
- Interaction with other departments and clients.
- Accountable for safety training, mentoring and coaching of field staff.

Qualifications include a degree or diploma in Geomatics from a recognized technical school or equivalent field experience of 5 - 7 years, or equivalent combination of education and supervisory experience.