

**PROGRAMMER ANALYST 3****Nature of Work**

Under general supervision, at the advanced level, performs complex systems and analysis work in the development, implementation, and maintenance of computer applications for state agencies or serves as project team leader. Receives requests for new systems and modifications to existing systems and conducts a feasibility study to estimate the cost and the time needed to fulfill request. Uses structured or object-oriented techniques for systems development. Monitors the cost of each project. An irregular work schedule may be required of this position. Performs related work as required.

**Distinguishing Characteristics**

Programmer Analyst 3's will have chosen one of two career paths: 1) responsible for leading a group of programmers that are responsible for multiple smaller applications or a single complex application with multiple modules or subsystems; 2) technical specialist in a field (DB2, CICS, etc.) that has impact on multiple mission critical applications that cross division lines. Programmer Analyst 3's analyze, design, develop and implement complex computer systems such as on-line, multi-program systems. Trains and develops skills of lower level programmers and programmer analysts. May delegate work as project leader in a large programming shop.

**Examples of Work**

Leads a staff of programmer analysts who are responsible for analyzing the feasibility of users requests and writing programs contained in a system.

Assists management in establishing standards and methodology for analysis, design and coding of complex systems.

Reviews functionality and utility of complex hardware/software systems to develop cost/benefit ratios and select appropriate platforms for systems development and operations.

Compares viability of various software development tools for systems analysis and design.

Analyzes benchmarks and other performance measurements to select appropriate languages and database for systems construction and implementation.

Writes a user procedure manual upon completion of a new system; explains the procedures to the users; initiates the training required for conversion to data processing or a modified system.

**PROGRAMMER ANALYST 3 (CONT'D)****Examples of Work (cont'd)**

Trains subordinate programmer analysts in complex programming and analytical techniques.

Ensures that programmers and programmer analysts have followed established standards.

Reviews design documents for clarity, completeness and accuracy; analyzes the facts to determine whether the solutions presented offer the most cost/time effective solution to an agency systems problem.

Monitors the implementation of accepted documents to ensure the system's arrival and installation.

Meets with agency personnel to determine functions, goals and systems problems; develops solutions and documents them.

Participates in self-study and vendor-supplied courses to improve skills in more complex programming areas.

Develops new or modifies existing complex programs, reviews logic, codes logic flow into appropriate language, conducts test run, debugs program from test results and prepares documentation.

**Knowledge, Skills and Abilities**

Knowledge of data base management, documentation and project control techniques.

Knowledge of the computer and personnel resources available; the capabilities of the programming languages, hardware configurations and software packages.

Knowledge of multiple 3rd or 4th generation programming language.

Knowledge of complex programming systems, software and hardware configuration and their applications in a systems environment.

Knowledge of data processing concepts and equipment usage.

Skill in programming complex systems and in the use of hardware and software configuration.

Ability to evaluate and analyze user requests and develop effective work plans for systems development and maintenance to meet user requirements.

Ability to give instructions and direct the activities of other programmer analysts; to explain and evaluate the systems proposals.

Ability to present ideas in a clear, concise format using narrative statements and logic diagrams.

**PROGRAMMER ANALYST 3 (CONT'D)****Knowledge, Skills and Abilities (cont'd)**

Ability to maintain effective working relationships with data processing personnel and users.

Ability to understand complex technical manuals.

Ability to develop and maintain complex program systems at a level comparable to on-line applications.

Ability to develop and perform system checks which are sufficient to test the thoroughness and accuracy of programs.

**Minimum Qualifications**

**Training:** Bachelor's degree from an accredited college or university in computer science or related field including but not limited to business data programming, business systems analysis, computer accounting, computer and information systems, computer servicing technologies, information systems management, data processing, or computer engineering. **OR** An Associate's degree from an accredited college, university or business school in computer science or related field including but not limited to business data programming, business systems analysis, computer accounting, computer and information systems, computer servicing technologies, information systems management, data processing, or computer engineering and eighteen months of full-time or equivalent part-time paid computer programming experience in one or more programming or data base languages.

**Substitution:** Three years of full-time or equivalent part-time paid computer programming experience in one or more programming or data base languages may substitute for the required training.

**Experience:** Four years of full-time or equivalent part-time paid experience in programming, system design and analysis work with multiple programming or data base languages.

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