PROGRAM ADMINISTRATOR (SOFTWARE ENGINEER I)

DISTINGUISHING FEATURES OF THE CLASS: Under supervision, incumbents of this class are responsible for participating as part of a team in the design, development, building, configuration, integration, testing and operation of custom programming projects and systems, including in-house and third party software components, as well as off-the-shelf software modules, in order to provide quality IT services to user departments. Incumbents perform the aforementioned duties at any point in the life cycle for existing and new systems. Supervision is not a responsibility of this position. Guidance may be provided to Interns and Student Workers. Does related work as required.

EXAMPLES OF WORK: (Illustrative Only)

Prepares project plans, designs software module architecture, documents and presents the design and code to acquaint other staff with the details of the system and undertakes any other necessary and related tasks to a successful and timely conclusion at any point in the life-cycle of an application system to build effective application systems;

Participates in the collection and organization of functional requirements, analyzes those requirements and develops a conceptual (logical) representation of the requirements;

Assists is preparing RFP's for vendor software, software tools and components and also works with vendors with a view towards effective use of their systems and/or software modules;

Designs and develops Web-based applications using one or more of HTML, C/C++, Java, ASP, Visual Basic, UNIX Shell Script, Perl, and SQL, or other tool appropriate to the application;

Uses systems configuration management and version control tools in the various life-cycle stages of a system;

Designs database schemas to meet the data needs of the department, as identified in requirements analysis or county-wide mandates;

Designs, develops and administers systems based upon relational database management software such as Oracle and Microsoft SQL Server, or upon object-oriented database software;

Uses computer applications or other automated systems such as spreadsheets, word processing, calendar, email and database software in performing work assignments.

May perform other incidental tasks, as needed.

REQUIRED KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES: Thorough knowledge of the fundamental concepts of server and client operating systems, including at least one of the following - UNIX, Windows NT, or Windows 95; knowledge of designing and programming for at least one of the following languages: C/C++ or Java; knowledge of at least one of the following languages: Visual Basic, SQL, JavaScript, UNIX Shell Script, Perl; knowledge of formal requirements, analysis and design methodologies and CASE tools, such as Yourdon-DeMarco or UMT; knowledge of the design and programming of effective, maintainable solutions - at the module level - and its architecture; knowledge concerning how to use and select software components/objects as appropriate; familiarity with at least one of the following: GIS, object-oriented database management systems, middleware, embedded systems, expert systems; ability to use Rapid Application Development tools; ability to identify, evaluate and convey (both orally and in writing) requirements, designs and operations of application software and systems; ability to read, write, speak, understand, and communicate in English sufficiently to perform duties of the position; ability to gather and analyze data and draw conclusions; ability to effectively use computer applications such as spreadsheets, word processing, calendar, email and database software; ability to read, write, speak, communicate and understand English sufficiently to perform the duties of the position; ability to establish and maintain effective working relationships; thoroughness and attention to detail; resourcefulness; initiative; imagination; good judgment; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: Either (a) a Bachelor's Degree* and one year of experience (pre- or post-degree) designing and programming application software in at least one of the following languages: C/C++, Java, Oracle Database, Microsoft SQL, Javascript, UNIX Shell Script, or Perl; or (b) a Bachelor's Degree* and possession of certification from the vendor of one of the following software tools: Microsoft C/C++, Java, Oracle Database or Microsoft SQL; or (c) a Bachelor's Degree* or a Master's Degree* in Computer Science, Information Technology, or closely related field which included or was supplemented by a computer programming course† in, or including coursework in, C/C++ and/or JAVA, and a course† in database design (see definition).

NOTE #1: Experience solely on a home personal computer may not be used as a substitute for the aforementioned experience.

NOTE #2: Unless otherwise noted, only experience gained after attaining the minimum education level indicated in the minimum qualifications will be considered in evaluating experience.

DEFINITION: A course in database design is defined as a course that covers how to analyze, classify and maintain an organization's data and data relationships and develop data models and data dictionaries.

*SPECIAL NOTE: Education beyond the secondary level must be from an institution recognized of accredited by the Board of Regents of the New York State Department of Education as a post-secondary, degree-granting institution.

†NOTE: For the coursework in C/C++ and database design, the only courses that will be accepted are courses taken at recognized colleges and universities (as defined above in the Special Note), or a vendor approved course from a commercial business.