

Job Title: Systems Analyst/Programmer I

Job Grade Level: 8

Career Track: First in a I, II Series

Job EEO Code:

Agency/Department: Office of the Revisor of Statutes

Date: 9/12/2006
(updated 5/14/08)
(updated 9/14/2014)

Reporting to: Deputy Revisor for Information
Systems and Assistant Deputy
Revisor for Information Systems.
Functional reporting to Systems
Analyst/ Programmer II, Data
Systems Project Manager

Primary Objective: The Systems Analyst/Programmer I provides computer programming and systems administration work necessary to develop, operate, and maintain the Revisor's Office computer systems.

Responsibilities and Tasks:

The Systems Analyst/Programmer I performs programming or systems administration or database-administration functions. Everyone in this job classification, however, has a primary focus in one of these broad areas.

1. Provide computer-programming functions:
 - a. Design, program, test, and document new functions and features for in-house developed applications and in developing new XTEND software applications.
 - b. Enhance existing functions and features for in-house developed applications needed for better efficiency and more flexibility. This task may include XTEND, web applications, or applications designed in Oracle.
 - c. Modify and enhance software purchased for special applications, such as the CINDEX software for indexing.
 - d. Evaluate and correct problems that arise in using any of the type of applications in items a to c.
2. Provides one or more systems administration functions:
 - a. All system administration functions include the following duties:
 - i. Continuous training in relevant technologies
 - ii. Planning for the needs of the office, researching hardware and software requirements, and making purchase recommendations to the Deputy Revisor for Information Systems
 - iii. Installing both software and hardware to provide for system operation
 - iv. Installing software, and optionally hardware, to perform disk backups
 - v. Ongoing maintenance, configuration, administration, troubleshooting, and technical support of systems
 - b. Microsoft Windows systems administration. This is the system necessary to operate Microsoft Windows applications, such as Word, Excel, and Access, and other applications such as Cindex.

- c. Security firewall administration, including related functions such as the router, shared services (DMZ), and virtual private network concentrator.
 - d. Network administration, including:
 - i. designing, maintaining, and installing terminals, printers, hubs, switches, cables, and routers; and
 - ii. network maintenance, to enable reliable operation of the local area network, including services, and internal network components.
 - e. Linux system administration. Linux is the operating system used to operate the Oracle database and AppServer for the XTEND drafting system and for web components.
 - f. Storage Area Network (SAN) or (NAS) administration.
 - g. Answer questions relating to using the network or revisor systems in general.
3. Database administration functions:
- a. Database administration
 - i. Perform maintenance operations as assigned. The database should be both highly available and operate at a high performance.
 - ii. Monitor database performance.
 - iii. Work with legislative programmers to identify software that degrades database performance.
 - iv. Protect database contents. Monitor the database for malicious attacks and unauthorized access. Report such incidents to the Deputy Revisor for IS. Work with state security experts to resolve and prevent such incidents.
 - v. Preserve database contents. Monitor procedures for preserving the database's contents.
 - vi. Continuously learn about the capabilities and limitations of the commercial database in use. Participate in the installing of new versions of commercial database products.
 - b. Database-programming assignments
 - i. Maintain code for full text searching of documents stored in the database.
 - ii. Design and code SQL statements for use by other programmers.
 - iii. Perform batch import, export, and conversion of data.
4. Perform other duties as assigned.

Budget Responsibility:

None, other than to recommend hardware or software purchases to the Deputy Revisor for Information Systems.

Supervisor Responsibility:

None

Indirect Supervision:

Trainer and Help Desk Specialist I and II, regarding specialized applications.

Scope of Relationships:

1. External contacts:
 - a. Weekly contact with information services staff in other legislative offices
 - b. Quarterly contact with technical-support engineers to resolve issues in commercial software applications.
2. Internal contacts:
 - a. Daily contact with other Revisor's Office computer staff
 - b. Daily contact with independent contractors hired to maintain existing IT systems
 - c. Weekly contact with other Revisor's Office staff such as clerk, attorney, or administrative staff

Decision Making and Impact of Error:

1. Discretion. The Systems Analyst/Programmer I typically receives an assignment or project from the Deputy Revisor for Information Systems or the Assistant Deputy for Information Systems.
 - a. Primary decision making on how to develop and implement the specific project assignment.
 - b. Shared decision making on recommended hardware or software purchases.
2. Impact of Error:
 - a. Errors in programming could result in an application failing, loss of data, or delay in the ability to produce data.
 - b. Errors in system administration could take down all or part of the system, cause loss of data, or allow access to sensitive information.

Working Conditions and Physical Demands:

1. Normal office conditions, about 90 percent of the time
2. Occasional lifting of heavy computer equipment, about 5 percent of the time
3. Occasional long hours to solve computer problems or be on site for troubleshooting, about 5 percent of the time
4. During session, rotate on-call duty with other computer staff, for a one-week period

Minimum Qualifications:

1. Education. The minimum education required is a four-year computer-science degree, or the equivalent, based upon at least three years of work in the computer field.
2. Experience. No work experience is necessary unless it is needed to substitute for the education requirement.
3. Knowledge. Depending on the position, knowledge in one or more of the following areas is required:
 - a. Java or PHP, and CSS programming languages
 - b. Microsoft Windows servers and a Windows scripting language (e.g., Perl, PowerShell).
 - c. Linux servers and Linux scripting languages (e.g., Perl, bash)
 - d. Hypervisor software for creating and running virtual servers
 - e. Office productivity software such as Microsoft Office applications
 - f. Internet concepts and usage such as html, http, telnet, ftp and e-mail
 - g. Relational database management systems (RDBMS). Familiarity with Oracle databases preferred.
4. Skills and Abilities. This position requires:

- a. analytical skills to diagnose problems and design corrections or new applications;
- b. resourcefulness to solve a particular computer problem in a manner that will not adversely affect the other system components;
- c. initiative to develop new applications and enhance existing applications;
- d. judgment to determine the best way to solve a problem or design a new application; and
- e. communication/relationship skills to be effective in communicating new applications or solving problems.

Desired Qualifications:

- 1. Knowledge of the legislative process and users' jobs
- 2. Advanced knowledge in any of the applicable programming or system administration functions

All identified duties are essential.

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Job Title: Systems Analyst/Programmer II

Job Grade Level: 9

Career Track: Second in I, II Series

Job EEO Code:

Agency/Department: Office of the Revisor of Statutes

Date: 6/20/2005
(updated 10/24/2006)
(updated 9/14/2014)

Reporting to: Deputy Revisor for Information
Systems. Functional reporting to
Data Systems Project Manager

Primary Objective: Systems Analyst/Programmer II provides complex computer-software programming and systems administration work necessary to develop, operate, and maintain the Revisor's Office computer systems.

Responsibilities and Tasks:

The Systems Analyst/Programmer II performs complex software programming or systems administration or database-administration functions. Each individual in this job classification, however, has a primary focus in one of these broad areas.

1. Provide complex programming for computer applications used in the Revisor's Office or other legislative offices. Train System Analyst/Programmer I staff to perform these duties:
 - a. Design, program, test, and document new functions and features for in-house developed applications. This task includes key work in developing new XTEND software applications. Necessary components of this work include subsystem design, algorithm design, and application programming.
 - b. Enhance existing functions and features for in-house developed applications needed for better efficiency and more flexibility. This task may include XTEND applications already in prototype, web applications, or applications designed in Oracle. In addition, maintain and enhance databases for the Revisor's Office, the House of Representatives, and the Senate.
 - c. Modify and enhance usage of software purchased for special applications.
 - d. Evaluate and correct problems that arise using any of the type of applications in items a to c.
2. Provide one or more systems administration functions and train System Analyst/Programmer I staff to perform these functions:
 - a. All system administration functions include the following duties:
 - i. Continuous training in relevant technologies
 - ii. Planning for the needs of the office, researching hardware and software requirements, and making purchase recommendations to the Deputy Revisor for Information Systems
 - iii. Installing both hardware and software to provide for system operation
 - iv. Maintain, configure, administer, troubleshoot, and provide technical support of systems
 - b. Microsoft Windows systems administration.
 - c. Security firewall administration, including related functions such as the router, shared services (DMZ), and virtual private network concentrator.

- d. Network administration.
 - e. Linux system administration.
 - f. Storage Area Network (SAN) administration.
 - g. Perform Linux system administration.
 - h. Web server administration, to enable reliable operation of the office's website and Internet services.
3. Database administration functions covering the complete life cycle of relational databases:
 - a. Database design
 - i. Communicate with software programmers in the legislature. Collect and document requirements for new database tables and changes to existing tables.
 - ii. Design and document database: tables, views, and stored procedures. Use established best practices and vendor recommendations to design databases that perform well and are easy to maintain.
 - iii. Write SQL to create and modify tables, views, and stored procedures. Use a revision-control system to preserve the SQL.
 - b. Database administration
 - i. Perform all maintenance operations. The database should be both highly available and operate at high performance.
 - ii. Monitor database performance. Tune database configuration as necessary.
 - iii. Work with legislative programmers to fix software that degrades database performance by requesting unnecessary database operations.
 - iv. Protect database contents. Monitor the database for malicious attacks and unauthorized access. Report such incidents to the Deputy Revisor for IS. Work with state security experts to resolve and prevent such incidents.
 - v. Preserve database contents. Implement and monitor procedures for preserving the database's contents.
 - vi. Continuously learn about the capabilities and limitations of the commercial database use. Install the latest stable version of the commercial database.
 - c. Database programming assignments
 - i. Full-text searching of document stored in the database.
 - ii. Design and code SQL statements for use by other programmers.
 - iii. Perform batch import, export, and conversion of data.
 4. Assist with project administration, as requested by the Deputy Revisor for Information Systems or the Data Systems Project Manager.
 5. Advise the Deputy Revisor for Information Systems or the Data Systems Project Manager by:
 - a. suggesting new network features that would increase the value of the revisor's data to the public and the legislative user community, including Internet access;
 - b. recommending hardware or software purchases;
 - c. serving as a mentor to individuals in the Systems Analyst/Programmer I classification; and
 - d. assisting in evaluating applicants for computer staff positions at the request of the Deputy Revisor for Information Systems.
 6. Serve other legislative offices and the public by:
 - a. working with House of Representatives, Senate and other legislative offices to incorporate network applications using legislative data in the revisor's system database;

- b. working with staff from other legislative offices to plan and implement their computer needs related to the network or revisor system in general; and
- c. answering questions relating to using of the network or revisor's systems in general.

7. Perform other duties as assigned.

Budget Responsibility:

None, other than to recommend hardware or software purchases to the Deputy Revisor for Information Systems.

Supervisor Responsibility:

None, other than to assist in hiring at the request of the Deputy Revisor for Information Systems.

Indirect Supervision:

- 1. Trainer and Help Desk Specialist I and II regarding specialized applications
- 2. Systems Analyst/Programmer I as mentor

Scope of Relationships:

- 1. External contacts:
 - a. Daily to weekly contact with information services staff in other legislative offices, depending on specific assignment
 - b. Monthly contact with technical-support engineers to resolve issues in commercial software applications
 - c. Quarterly contact with vendors or other sales persons
- 2. Internal contacts:
 - a. Daily contact with independent contractors hired to maintain existing IT systems
 - b. Daily contact with other Revisor's Office computer staff
 - c. Weekly contact with other Revisor's Office staff such as deck, attorney, or administrative staff

Decision Making and Impact of Error:

- 1. Discretion. The Systems Analyst/Programmer II typically receives a broad-based assignment or project from the Deputy Revisor for Information Systems:
 - a. Primary decision making on how to develop and implement the specific project or assignment (application programming, software documentation, and project administration).
 - b. Shared decision making:
 - i. on how the specific project or assignment fits within the framework of broader computer systems (subsystem design and algorithm design);
 - ii. on any recommended hardware or software purchases; and
 - iii. on any hiring recommendations.
- 2. Impact of Error:
 - a. Errors in programming could result in an application failing, loss of data, or delay in the ability to produce data.

- b. Errors in system administration could take down all or part of the system, cause loss of data, or deny access to sensitive information.

Working Conditions/Physical Demands:

- 1. Normal office conditions, about 90 percent of the time
- 2. Occasional lifting of heavy computer equipment, about 5 percent of the time
- 3. Occasional long hours to solve computer problems or be on site for troubleshooting, about 5 percent of the time
- 4. During session, rotate on-call duty with other computer staff, for a one-week period

Minimum Qualifications:

- 1. Education. The minimum education required is a four-year computer-science degree, or the equivalent, based upon at least three years of work in the computer field.
- 2. Experience. Three years' work experience at the Systems Analyst/Programmer I level is necessary in addition to any experience needed to substitute for the education requirement.
- 3. Knowledge. Depending on the position, extensive knowledge in one or more of the following areas is required:
 - a. Java and Java EE or PHP, CSS, and JQuery programming languages
 - b. Microsoft Windows servers and a Windows scripting language (e.g. Perl, PowerShell).
 - c. Linux servers and Linux scripting languages (e.g., Perl, bash)
 - d. Hypervisor software for creating and running virtual servers
 - e. Office productivity software such as Microsoft Office applications
 - f. Internet concepts and usage such as html, http, telnet, ftp, and e-mail
- 4. Skills and Abilities. This position requires:
 - a. analytical skills to diagnose problems and design corrections or new applications;
 - b. resourcefulness to solve a particular computer problem in a manner that will not adversely affect the other system components;
 - c. initiative to develop new applications and enhance existing applications;
 - d. judgment to determine the best way to solve a problem or design a new application; and
 - e. communication/relationship skills to be effective in communicating new applications or solving problems.

Desired Qualifications:

- 1. Knowledge of the legislative process and users' jobs
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All identified duties are essential.

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