

## SOFTWARE ENGINEER II

DISTINGUISHING FEATURES OF THE CLASS: Under general supervision, incumbents of this class, located at Westchester Community College, are responsible for providing technical leadership in the design; development; building; configuration; integration; testing, and operation of custom programming projects and systems, including in-house and third party software components, and off-the-shelf software modules. This class is distinguished from the Software Engineer I level by the scope and complexity of assignments as well as the frequent and ongoing use of independent judgment and action in completing assignments and projects within given timeframes, and in managing vendor relationships. Under managerial direction, incumbents of this class are also responsible for managing projects affecting campus-wide activities, from beginning to end, as well as providing technical guidance and leadership to subordinate staff. While technical leadership and guidance is provided, supervision is not a responsibility of this class. Does related work as required.

### EXAMPLES OF WORK: (Illustrative Only)

Provides technical guidance and leadership to staff preparing project plans; designing software modules; documenting and presenting designs and coding, while acquainting other staff with the details of the system;

Performs various, related project management tasks at any point in the life-cycle of an application system to build effective application systems in a timely manner;

Collects and organizes functional requirements, analyzes them and develops conceptual (logical) representation(s) of the requirements;

Prepares work-flow analyses and process re-engineering;

Operates and refines application systems to ensure they function reliably and efficiently;

Assists in preparing RFP's for vendor software, software tools and components and manages vendor relationships;

Designs and develops Web-based applications using one or more of HTML, Java, ASP, UNIX Shell Script, Perl, and Microsoft 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 departments, as identified in requirements analyses 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;

EXAMPLES OF WORK: (Illustrative Only) (Cont'd)

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 required.

FULL PERFORMANCE SKILLS, ABILITIES AND ATTRIBUTES: Thorough knowledge of the fundamental concepts of server and client operating systems, including UNIX and Microsoft Windows; good knowledge of designing and programming in Object Oriented Programming and Java; good knowledge of at least one of the following languages: Oracle PeopleSoft Microsoft SQL, JavaScript, UNIX Shell Script, Perl; good knowledge of formal requirements, analysis and design methodologies; good knowledge of the design and programming of effective, maintainable solutions - at the module level - and its architecture; good knowledge of the use of select software components/objects as appropriate; knowledge of object-oriented programming and database management systems; knowledge of distributed computing and 3-tier architectures as well as middleware and other systems integration tools; knowledge of embedded systems; knowledge of relational database design, operation, optimization and tuning; skill in the use of Rapid Application Development tools; ability to plan, coordinate, supervise and evaluate the work of others; ability to identify, evaluate and convey (both orally and in writing) requirements, designs and operations of application software and systems; ability to establish and maintain effective working relationships; ability to manage technical projects and vendor relationships; ability to gather and analyze data and draw conclusions; ability to establish and maintain effective working relationships; ability to effectively use computer applications such as spreadsheets, word processing, calendar, email and database software; ability to read, write, speak, understand, and communicate in English sufficiently to perform the duties of the position; thoroughness and attention to detail; resourcefulness; initiative; imagination; good judgment; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: A Bachelor's Degree\* and five (5) years of recent (within the last 7 years) experience (pre- or post-degree) designing and programming application software in at least one of the following languages: Java, Oracle Database, Microsoft SQL, JavaScript, UNIX Shell Script, or Perl.

SUBSTITUTIONS: A Bachelor's degree\* in Information Technology or closely related field may be substituted for one year of the required experience. A Master's Degree\* in Information Technology or a closely related field may also be substituted for one additional year of experience.

SPECIAL REQUIREMENTS: Possession of a valid license to operate a motor vehicle in the State of New York at time of appointment and maintain same while in the title.

NOTES:

1. \*Education beyond the secondary level must be from an institution recognized or accredited by the Board of Regents of the New York State Department of Education as a post-secondary, degree-granting institution.
2. Unless otherwise noted, only experience gained after attaining the minimum education level indicated in the minimum qualifications will be considered in evaluating experience.
3. Experience on a home personal computer may not be used as a substitute for the aforementioned experience.