

IT Sample Duties and Responsibilities Statements

BAND A – POSITION CONCEPT: ENTRY / INTERMEDIATE / INDEPENDENT WORKER

Multi-user System Administration

Systems & Services Administration

- ❖ Installs, tests, implements, monitors, tunes, and maintains all related software products
Rack-mounts servers and installs server hardware such as CPU, memory, internal and external disks, and related peripherals such as small printers.
- ❖ Installs and configures Unix and other operating systems.
- ❖ Installs, tests, documents, and maintains systems and network hardware, including firmware upgrades.
- ❖ Installs, tests, and maintains all software products.
- ❖ Assists with backup and recovery procedures.
- ❖ Assists with applications change management activities.
- ❖ Assists with ID management.
- ❖ Assists with network management including DNS and zone files.
- ❖ Monitors the status and performance of scheduled production jobs.
- ❖ Monitors the performance of systems and the network.
- ❖ Identifies, analyzes, and resolves/troubleshoots job scheduling problems. Executes documented escalation procedures when necessary.
- ❖ Assists with design, development, testing, and documentation of scripts and routines as needed for enhancing monitoring and for integrating servers and services.
- ❖ Assists with design, development, testing, and documentation of middleware as needed for integrating servers and services, including <e.g., LDAP>.
- ❖ Assists with design, development, testing, and documentation of status reporting programs for the gathering of performance measurements used for balanced scorecard and capacity planning reporting and activities.

Systems Programming

- ❖ Assists with the design, development, testing, and documentation of applications such as <e.g., custom applications>.
- ❖ Assists with design, development, testing, and documentation of programs and scripts that automate routine tasks.

Administrative Applications Monitoring and Support

- ❖ Installs, tests, and maintains software products and upgrades.
- ❖ Monitors status and performance of: systems, applications, services and related devices using monitoring tools and applications available. Tools may be used to identify and/or resolve problems and to collect performance data for further analysis.
- ❖ Identifies, analyzes, and resolves/troubleshoots Administrative Applications problems. Escalates as necessary to ensure resolution.
- ❖ Provides technical support, and advice to <e.g., systems administrators, data base administrators, and network engineers> as necessary to resolve problems.
- ❖ Documents abnormalities in logs and/or initiate trouble calls/tickets to the appropriate parties as necessary.
- ❖ Monitors the status and performance of scheduled production jobs and provides support where necessary for peripheral activities such as managing removable media, output, and scanning forms.

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Systems Analysis, Development, & Maintenance

- ◆ Analyzes and documents existing processes, procedures, and data; collects data on best practices externally; designs and implements online forms and user interfaces according to specifications.
- ◆ Analyzes, develops, and documents technical interfaces among devices and software packages.
- ◆ Responsible for acquisition of 3rd party software.
- ◆ Prepares specifications for ad-hoc requests.
- ◆ Develops software according to specifications.
- ◆ Performs tasks in an Integrated Development Environment.
- ◆ Develops and prototype user interfaces.
- ◆ Develops, integrates, and customizes applications.
- ◆ Modifies documented and/or undocumented software and applications.
- ◆ Develops program documentation, which includes general and detailed flowcharts, operating instructions, technical description, input and output file layouts, screen layouts, and report layouts.
- ◆ Testing – creates test data, performs unit and system testing of programs and applications; coordinates system testing; converts live data and files to new format; tests file maintenance programs and report programs with reformatted data and files.
- ◆ Performs Software Quality Assurance tasks.
- ◆ System Installation and Implementation – instructs users on the basic operation of the system and provides them with the necessary documentation; creates new files according to specifications.
- ◆ Contacts users on any production problems that would interfere with the normal use of the system.
- ◆ Updates production documentation that accurately reflects any changes to the application and/or processing.
- ◆ Assists when problems occur with applications and hardware.

Database Management and Administration

Database Design, Development, Maintenance, & Administration

- ❖ Works with source system subject matter experts to understand the source data structures and data item definitions.
- ❖ Communicates and works with managerial, administrative, and technical staff to determine information needs, data flows, and system definitions and document these requirements.
- ❖ Monitors and tracks software versions, fixes, and vendor announcements.
- ❖ Translates business rules into a physical data model.
- ❖ Analyzes source metadata, profiles source data and develops data mapping and transformation rules.
- ❖ Designs logical and physical databases and/or reviews changes to database design to understand how changes to be made affect physical database.
- ❖ Designs and develops database schemas for existing systems and/or new systems.
- ❖ Establishes physical database parameters.

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- ❖ Codes database descriptions and specifies identifiers or help others in coding database descriptions.
- ❖ Defines and specifies user access levels.
- ❖ Tests, corrects, and refines changes and errors to database.
- ❖ Designs, codes, and tests extract, transforms, and loads (ETL) components.
- ❖ Schedules extract, transforms, and loads (ETL) and reporting jobs.
- ❖ Runs ad-hoc reports and creates custom views on an as needed basis.
- ❖ Defines, plans, and implements backup/recovery strategies.
- ❖ Works closely with applications developers, system administrators, system DBAs, and production control with the migration from the development/test environments to the production environments.
- ❖ Updates production documentation that accurately reflects any changes.
- ❖ Assists when problems occur.

System Database Administration

- ❖ Regularly monitors relevant listservs to stay informed of related problems and issues as they appear and are announced in these forums. Also passes on technical comments and suggestions that may be beneficial to colleagues.
- ❖ Performs technical problem diagnostics and problem resolution with the assistance of systems administrators, developers, application change-management administrators, and vendor technical support as necessary.

Manages Applications Related to the Database Environment

- ❖ Installs, tests, implements, monitors, tunes, and maintains all related software products <e.g., PeopleSoft, various SCT products, etc.>
- ❖ Monitors and tracks software versions and fixes announcements.
- ❖ Recommends and helps coordinate software upgrades and updates to ensure that production software is supported by the vendor.

Manages the Database Environment

- ❖ Develops, recommends, implements, maintains, and enforces all necessary policies, procedures, standards, and practices to ensure the security and integrity of the database, including disaster recovery.
- ❖ Develops, recommends, implements, and maintains database backup and recovery procedures. Backup and recovery procedures are designed to be efficient and effective, even in the event of catastrophic application, media, or other failure.
- ❖ Assists with developing and implementing metrics and information gathering procedures to provide for trends-analysis in areas such as capacity planning and availability reporting.
- ❖ Anticipates, plans, and coordinates capacity expansion as required by the development and deployment of new applications.
- ❖ Monitors production databases quarterly and recommends and coordinates tuning activities to help sustain and improve performance and efficiency.

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Advisory Functions

- ❖ Provides application development staff support for issues requiring escalation for problem resolution.
- ❖ Works with applications developers during the coding phase of applications development to select and implement optimal statements for data access.
- ❖ Assists applications developers with developing entity relationship diagrams for data modeling.
- ❖ Assists with developing, documenting, and publishing guidelines, standards, and techniques to assist applications developers with efficient and effective design.

Systems Application Change-Management

- ❖ Develops programs and scripts to assist operations staff with the automation of tasks.
- ❖ Manages administrative systems such as the administration modules provided by <e.g., PeopleSoft, SCT Banner, etc.>.
- ❖ Develops, documents, and manages applications change-management related procedures to reflect changes in the application development life cycle.
- ❖ Develops automated processes for optimizing applications change management procedures.
- ❖ Assists developers with developing and deploying schemas.
- ❖ Migrates administrative systems changes into production.

User Technical Support and Consultation

- ◆ Provides consulting assistance to users.
- ◆ Troubleshoots any problems that the users may have relating to web-based application(s).
- ◆ Assists users in resolving user and/or computer error(s).
- ◆ Answers any questions that users may have or redirects them to someone who may be able to provide appropriate answers.
- ◆ Assists in developing training materials for Web-based applications.
- ◆ Assists in training personnel in the use of Web-based applications.
- ◆ Serves as technical support person in the provision of all microcomputer technical support and services systemwide/universitywide.
- ◆ Performs problem resolution on Intel-based hardware and software problems including operating system (OS), file operations, local and networked printing.
- ◆ Performs & troubleshoots installation and use of <e.g., ITS> supported applications & clients, TCP/IP client installations such as Telnet, FTP, web, email clients, network setup & connection (both direct network connections & dialup network connections).
- ◆ Performs problem resolution on local area network (LAN) problems for <e.g., ITS> supported network operating systems (NOS) such as Novell, Windows 2000, and Appleshare.
- ◆ Assists departmental system administrators with technical problems such as installation, configuration, management, and maintenance.
- ◆ Performs technical advisement and problem resolution on Macintosh hardware and software problems including operating system (OS), file operations, local and networked printing.
- ◆ Performs & troubleshoots installation & use of <e.g., ITS> supported applications & clients, TCP/IP client installations such as Telnet, FTP, web, email clients, network setup & connection (both direct network connections and dialup network connections).

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- ◆ Researches, supports, tests, and maintains microcomputer software applications needed by faculty/staff/students of UH to accomplish daily tasks.
- ◆ Supports users with <e.g., ITS> supported software such as: Eudora (email), NCSA Telnet and SSH (remote login), Fetch and WS FTP (file transfers), Microsoft Office (word processing, spreadsheet, database, presentation), PGP (encryption), etc.
- ◆ Provides technical advisement on cross-platform problems and issues.
- ◆ Troubleshoots network connectivity problems for both direct network connections and dialup network connections.
- ◆ Provides hardware support such as installation of network cards, and reformatting of hard disk drives when required.
- ◆ Advises and assists users with integration of Macintosh and Intel-based systems into administrative and academic applications and services including IBM mainframe and UNIX applications and services.
- ◆ Installs, maintains and supports file servers and services (Windows 2000/XP, Appleshare, and Novell) for in-house use.
- ◆ Provides basic systems analysis and project planning expertise to assist users in the application of computer technology to their own problems.
- ◆ Advises and assists users in evaluating and selecting appropriate computer hardware and software for the solution of their problems, and provides basic technical consulting on the implementation and application of selected solutions.
- ◆ Maintains installation kits for <e.g., ITS> supported software for both Macintosh and Intel-based systems for distribution to the entire UH system.
- ◆ Tests and assists in the selection of software, configuring and creating installation kits, preparing master distribution diskettes, and continual maintenance of software and kits.
- ◆ Prepares and teaches classes as required. Prepares written documentation, procedures and standards to assist users in utilization of <e.g., ITS> facilities and the application of computer technology to their needs.
- ◆ Adapts written/printed documentation for electronic access and distribution such as web-based access via PDF files.
- ◆ Supervises, trains and schedules activities of student personnel responsible for on-site support and troubleshooting of users' computer systems.
- ◆ Keeps current on rapid developments and emerging technologies by researching articles in journals, periodicals, technical manuals, & by attending classes, conferences, presentations and self-directed study methods.
- ◆ Learns new technologies, systems, software, and equipment needed to stay current, perform duties, and advises users especially in area of specialties.
- ◆ Develops and experiments with new ideas, techniques, and applications to increase job productivity and efficiency.
- ◆ Performs related work as required.

Multimedia Development

- ◆ Works under minimal supervision, directly with users and assesses technical requirements based on strategic initiatives and user needs.
- ◆ Assesses feasibility, cost and risk factors.
- ◆ Develops system specifications including timelines and functional specifications.

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- ◆ Translates system specifications into programming requirements including programming module and data element dictionaries.
- ◆ Determines software, equipment and other tools necessary to implement the program.
- ◆ Determines feature lists of programs.
- ◆ Evaluates progress during project stages.
- ◆ Modifies work schedule and tools utilized to meet project requirements.
- ◆ Performs programming of web and database applications on <e.g., UNIX> or personal computer hardware for UH community.
- ◆ Integrates up-to-date methodology, demonstrates advanced skills, project planning, and documentation to accomplish planned projects.
- ◆ Develops software programs involving complex data exchange among multiple programs and/or requiring sophisticated program logic.
- ◆ Develops reusable software modules, develops software test procedures.
- ◆ Reviews program documentation to ensure adequacy.
- ◆ Performs programming to integrate application, fill-able forms, and databases with the web.
- ◆ Keeps abreast of advances in information technology and assess the feasibility of incorporating into project plans and specifications.
- ◆ Programs, tests, evaluates, and implements new computer programs using <JAVA, Active Server Pages, HTML, Javascript, PHP, Visual Basic and/or other programming or scripting language to meet project requirements>.
- ◆ Evaluates, modifies and maintains existing programs.
- ◆ Assesses and evaluates the capabilities and limitations of new and upcoming programming or scripting languages.
- ◆ Ensures programming projects are planned, programmed, tested and implemented by project deadlines.
- ◆ Works directly with departments and offices in implementing and testing the baseline, assessing and making necessary programming modifications, and maintaining and enhancing program functions and features.
- ◆ Performs technical advisement and problem resolution on all personal computer hardware and software problems including operating system (OS), file operations, local and networked printing.
- ◆ Performs & troubleshoots installation and use of ITS supported applications and clients, TCP/IP client installations such as Telnet, FTP, web, email clients, network setup and connection (both direct network connections and dialup network connections).
- ◆ Troubleshoots network connectivity problems for both direct network connections and dialup network connections.
- ◆ Provides hardware support such as installation of network cards, and reformatting of hard disk drives when required.
- ◆ Researches, recommends, supports and maintains microcomputer software applications that are needed by the faculty, staff and students of the university to accomplish their daily tasks.
- ◆ Advises and assists users with integration of desktop systems into administrative and academic applications and services.
- ◆ Provides technical assistance with procurement of new equipment.

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Networking

- ◆ Installs and configures voice, data, and video communication cable and hardware, e.g., workgroup switch, gateway or functional server, using established procedures.
- ◆ Troubleshoots and performs corrective measures to resolve or avoid problems with voice, data or video networks, typically within a campus or building environment.
- ◆ Reviews existing documentation, configuration files, equipment manuals, including online references, as necessary, to determine root cause and corrective action.
- ◆ Performs corrective action which may include replacement or reconfiguration of hardware, software, firmware or physical network connections; may also involve the coordination or collaboration w/other personnel, including contract resources.
- ◆ Uses appropriate test equipment, such as UTP cable tester, network protocol analyzer, cable TV test equipment, fiber optic cable test equipment, to diagnose and isolate network problems.
- ◆ With guidance from or consultation w/senior staff, works with IT peers or customer personnel in other departments or campus operations, external vendors, service providers or institutions, to collect requirements, complete projects, or resolve problems.
- ◆ With guidance from or consultation with senior staff, performs design of workgroup networks or component parts of enterprise networks consistent with established design and implementation standards or procedures.
- ◆ Monitors network performance with appropriate hardware and software tools such as <insert specific tools here as appropriate>.
- ◆ Enforces established security procedures to mitigate or isolate the impact of network intrusions, attacks or other incidents from University resources.
- ◆ Installs and terminates various types of standard, low-voltage communications cabling, including but not limited to, <insert specific components as appropriate, e.g., CAT5 UTP, CAT6 UTP, CATV coax, single and multi-mode fiber>
- ◆ Creates, modifies or updates network, process or customer documentation.
- ◆ Coordinates project efforts or work tasks that may include integrating the work of other IT professional staff, student technicians, contractors and suppliers.
- ◆ Coordinates the notification of planned or unplanned outages working with both University and external organizations, such as <insert example organizations as appropriate>.
- ◆ With guidance from or consultation with senior staff, manages projects of limited scope, e.g., workgroup network implementation, to include the supervision or coordination of peers, other professional staff, and student technicians.
- ◆ Conducts site surveys and collects customer requirements related to standard network design, implementation and problem resolution efforts.
- ◆ Provides advice to IT peers regarding elementary network design, monitoring, maintenance and implementation, consistent with the general principles followed on University campus networks.

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Professional Development

- ◆ Keeps abreast of latest developments and techniques by perusing technical journals and periodicals.
- ◆ Investigates techniques and strategies utilized by other installations, especially higher education institutions, by participating in various professional organizations.
- ◆ Regularly monitors relevant forums where job related issues are announced & discussed to stay informed of related problems & issues as they appear & are announced. Also passes on technical comments & suggestions that may be beneficial to colleagues.
- ◆ Updates technical skills by attending seminars, classes, and industry conferences.
- ◆ Keeps abreast of trends in Oracle applications development and change-management practices and tools.

Instructional Support

- ◆ Serves as technical expert to research, recommend, advise and assist faculty, staff, and students of the University systemwide with consulting for programming web and database applications for teaching and learning.
- ◆ Works directly with users and assesses technical requirements based on strategic initiatives and user needs; assesses feasibility, cost and risk factors regarding <_____>.
- ◆ Develops system specifications including timelines and functional specifications: translates system specifications into programming requirements including program modules and data element dictionaries.
- ◆ Determines software, equipment, and other tools necessary to implement programs; determines feature lists of programs; evaluates progress during project stages; and modifies work schedules and tools utilized to meet project requirements.
- ◆ Performs programming of web, academic, and database applications on <e.g., UNIX> or personal computer hardware for UH community.
- ◆ Integrates up-to-date methodology, demonstrated advanced skills, project planning, and documentation to accomplish planned projects.
- ◆ Develops reusable software modules and software test procedures; and reviews program documentation to ensure adequacy.
- ◆ Performs high-level programming for DLUS and UH community to integrate applications, fillable forms, and databases with the web for teaching and learning activities.
- ◆ Programs, tests, evaluates, and implements new computer applications for improved teaching and learning; integrates new applications for use with existing course management systems; evaluates, modifies, and maintains existing programs.
- ◆ Ensures programming projects are planned, programmed, tested, and implemented by project deadlines.
- ◆ Works directly with departments and offices in implementing and testing the programming project, assessing and making necessary programming modifications, and maintaining and enhancing program functions and features.
- ◆ Keeps abreast of advances in information technology and assesses the feasibility of incorporating into project plans and specifications.
- ◆ Provides technical advisement & problem resolution on all PC hard- and software problems e.g, OS, file operations, local & networked printing.

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- ◆ Performs & troubleshoots installation & use of <e.g., ITS> supported applications & clients, TCP/IP client installations (Telnet, FTP, web, email clients, direct & dialup network setup & connection).
- ◆ Troubleshoots network connectivity problems for both direct network connections and dialup network connections.
- ◆ Researches, recommends, supports, tests, and maintains microcomputer software applications that are needed by the faculty and students of the University for teaching and learning.
- ◆ Assists in the development of microcomputer support strategies in consultation and cooperation with <e.g., ITS> management and staff in support of the University and <e.g., ITS> missions and goals. Coordinates and implements strategies systemwide.
- ◆ Advises and assists users with integration of desktop systems into academic applications and services including UNIX applications and services.
- ◆ Provides technical assistance with procurement of new equipment.
- ◆ Participates in the planning, development, conducting, and evaluating workshops focusing on instructional technology tools (online applications such as WebCT, Dreamweaver, WordPerfect, Word, and Netscape/IE) and instructional design for the system.
- ◆ Assists in the management of the Digital Media Center (faculty computer development lab) and provides hands-on training and technical support for faculty and staff using the facility.
- ◆ Provides technical assistance to <e.g., ITS Help Desk> operations as required.