

## IT Sample Duties and Responsibilities Statements

### BAND B – POSITION CONCEPT: JOURNEYWORKER / WORKING SUPERVISOR / LEAD WORKER

#### Multi-user System Administration

##### Systems & Services Administration

- ❖ Installs, configures, and optimizes operating systems.
- ❖ Installs, tests, and documents security patches.
- ❖ Develops, tests, documents, implements and enhances backup and recovery procedures, including schedule coordination with the Job Scheduling staff.
- ❖ Develops, documents, implements and enhances applications change-management procedures and activities.

##### Systems Programming

- ❖ Designs, develops, tests, and documents scripts and routines as needed for enhancing and automating Administrative Applications monitoring and management.
- ❖ Designs, develops, tests, and documents programs and scripts that automate routine tasks.
- ❖ Designs, develops, tests, and documents status reporting programs for the gathering of performance measurements used for balanced scorecard and capacity planning reporting and activities.
- ❖ Assists with moderately complex design, development, testing, and documentation of the <e.g., application or service name>.

##### Administrative Applications Monitoring and Support

- ❖ Installs and documents installation process, configures and documents configuration decisions, and assists with testing of middleware and applications as directed.
- ❖ Provides technical support and advice to systems administrators, database administrators, network engineers, and <e.g., HITS> administrators as necessary to resolve problems.
- ❖ Updates information resources <e.g., the Current Status page and ITS eLog, the change-management log, etc.> so that the UH community can quickly determine the current status of <e.g., ITS> supported services.
- ❖ Monitors the performance of systems, services and the network. Notes trends and initiates action when necessary.
- ❖ Identifies, analyzes, and resolves/troubleshoots job scheduling problems. Escalates as necessary to ensure resolution.
- ❖ Coordinates planned and unplanned applications administration activities with business units in order to minimize or eliminate impact on business processes.
- ❖ Develops, documents and implements standards and procedures related to applications administration, such as: general administration, job scheduling, problem escalation, systems management, product installation, change-management, etc.

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#### **System Analysis, Development, & Maintenance**

- ◆ Exercises discretion and creativity within theoretical limits in the adaptation and application of evolving technologies and broad practical and emerging technical concepts, products, tools and services to a variety of diverse and multiple platforms.
- ◆ Makes decisions regarding the application and modification of existing and emerging technologies, systems, hardware and software that significantly impact various UH unit operations, multiple platforms, and numerous users.
- ◆ Analyzes and defines system and/or project specific requirements.
- ◆ Modifies existing tools and packages as needed.
- ◆ Provide logical process designs and data structures for new systems; and defines interface specifications in accordance with overall system design.
- ◆ Works directly with customers and assesses technical requirements based on strategic initiatives and customer needs; assesses feasibility, cost and risk factors.
- ◆ 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 the system; determines feature lists of programs; evaluates progress during project stages; and modifies work schedule and tools utilized to meet project requirements.
- ◆ Develops software programs involving complex data exchange among multiple programs and/or requiring sophisticated program logic; develops reusable software modules; develops software test procedures; and reviews program documentation to ensure adequacy.
- ◆ Keeps abreast of advances in information technology and assess the feasibility of incorporating into project plans and specifications.
- ◆ Advises individuals and groups having diverse viewpoints and opinions on the most appropriate, effective, and efficient solutions.
- ◆ Advises managers and customers of project requirements including hardware, operating systems and other software, technical support, cost, and timeframe. Propose options based on customer needs and recommend most feasible plan of action.
- ◆ Programs, tests, evaluates, and implements new computer programs using <insert the programming languages that are applicable to position>, and/or any 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.
- ◆ Provides project implementation and post-implementation support applications.

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#### Information Systems Planning

- ❖ Identifies organization information needs and defines the projects to meet these needs. Defines the information technology environment and/or technical architecture, which will be deployed.
- ❖ Estimates the level of resource costs associated with each planned or existing system; determines the cost/benefit analysis for the projects.
- ❖ Develops gross requirements in enough detail to develop top-level budgets for hardware, software, and personnel over a multiyear period.

#### Conceptual and Detailed Design

- ❖ Develops and documents functional description from the user's perspective which describes the system to be developed and the business solution to the problems identified.
- ❖ Converts the conceptual design or business solution into technical programming specifications. The level of detail to which the system specifications are prepared is a function of the size and complexity of the new systems.
- ❖ Develops and documents planning documentation for the development and implementation phases of the project. Four plans that are generally prepared include: implementation plan, system test plan, conversion plan, and training plan.

#### **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, profile source data and develop data mapping and transformation rules.
- ❖ Designs logical and physical databases and/or review 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.
- ❖ Codes database descriptions and specifies identifiers or helps others in coding database descriptions.
- ❖ Defines and specifies user access levels.
- ❖ Tests, corrects, refines changes and errors to database.
- ❖ Designs, codes, and tests extract, transform, and load (ETL) components.
- ❖ Schedules extracts, 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

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production environments.

- ❖ Updates production documentation that accurately reflects any changes.
- ❖ Assists when problems occur.
- ❖ Manages applications related to the database environment: Coordinates software maintenance activities with other ITS groups to ensure systems and applications availability as required by business workflows.
- ❖ Performs advanced technical problem diagnostics and problem resolution with the assistance of systems administrators, developers, application change-management administrators, and vendor technical support as necessary.

#### Advisory Functions

- ❖ Works closely w/applications developers during the analysis & design phases of applications development & assists with data normalization for data integrity & business logic simplification & with data denormalization when necessary to optimize throughput.

#### **User Technical Support and Consultation**

- ◆ Provides technical support for moderately complex problems in a timely manner.
- ◆ Identifies the cause(s), researches, assesses, solves and takes action to prevent programming and/or system problems from recurring using available resources.
- ◆ Uses technical resources such as: hardware/software manuals, third party books, technical email lists, Internet newsgroups, manufacturer telephone technical support lines, online help systems, etc.
- ◆ Monitors and tunes software performance; performs moderately complex software troubleshooting.
- ◆ Serves as advanced level technical support person to non-technical administrators, staff, and to other IT professionals in the provision of all microcomputer technical support and services systemwide/universitywide.
- ◆ Performs in-depth technical advisement and problem resolution on Intel-based hardware and software problems including operating system (OS), file operations, local and networked printing.
- ◆ Performs moderately complex installations & troubleshoots use of ITS supported applications & clients, TCP/IP client installations e.g., Telnet, FTP, web, email clients, network setup & connection (both direct & dialup network connections).
- ◆ Performs in-depth technical advisement and problem resolution on all local area network (LAN) problems for all <e.g., ITS> supported network operating systems (NOS) such as Novell, Windows 2000, and Appleshare.
- ◆ Makes recommendations for NOS servers and software, assisting departmental system administrators with technical problems such as installation, configuration, management, and maintenance.
- ◆ Performs in-depth technical advisement and problem resolution on Macintosh hardware and software problems including operating system (OS), file operations, local and networked printing.
- ◆ Performs moderately complex installations and troubleshoots <e.g., ITS> supported applications and clients, TCP/IP client installations such as Telnet, FTP, web, email clients,

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direct & dialup network setup and connection.

- ◆ Researches, recommends, supports, tests, and maintains microcomputer software applications that are needed by the faculty, staff, and students of the University to accomplish their daily tasks.
- ◆ Supports & develops training for <e.g., ITS> supported software: Eudora (email), NCSA Telnet and SSH (remote login), Fetch and WS FTP (file transfers), Microsoft Office (word processing, spreadsheet, database, presentation), PGP (encryption), etc.
- ◆ Assists w/integration of new/existing microcomputer systems into LAN environments including server, client & peripheral equipment installation/configuration, & connecting the LAN environments to UH Network to access mainframe & UNIX applications/services.
- ◆ Provides assistance with recommendations and procurement of new network-related equipment and upgrades including assistance with University procurement contracts.
- ◆ Assists <e.g., ITS Telecom Installation and Maintenance group with problem Telecom Requests>, special conditions and LAN requests.
- ◆ 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.
- ◆ Provides in-depth 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.
- ◆ Plans, 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.
- ◆ Provides technical assistance with procurement of new equipment.
- ◆ Installs, maintains and supports file servers and services (Windows 2000/XP, Appleshare, and Novell) as required for UH community.
- ◆ Provides 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 technical consulting on the implementation and application of selected solutions.
- ◆ Develops and maintains installation kits for ITS-supported software for both Macintosh and Intel-based systems for distribution to the entire UH system.
- ◆ Tests and selects software, configures and creates installation kits, prepares master distribution diskettes, and provides 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.

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- ◆ Keeps current on rapid developments and emerging technologies by researching articles in journals, periodicals, technical manuals, and by attending classes, conferences, presentations and self-directed study methods.
- ◆ Learns new technologies, systems, software, and equipment needed to stay current.
- ◆ 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**

- ◆ Serves as technical expert to research, recommend, advise and assist the university community with consulting for programming web and database applications to accomplish their daily tasks in the most efficient manner.
- ◆ Provides in-depth system analysis and project planning expertise to assist UH community in the application of computer technology to their own problems, and provides logical process designs and data structures for new systems.
- ◆ Defines interface specifications in accordance with overall system design.
- ◆ Works 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.
- ◆ 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; and modifies work schedule and tools utilized to meet project requirements.
- ◆ Performs in-depth programming of web and database applications on 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, and software test procedures, and reviews program documentation to ensure adequacy.
- ◆ Performs high-level programming to integrate application, fill-able forms, and databases with the web.
- ◆ Advises managers and users of project requirements including hardware, operating systems and other software, technical support, cost, and timeframe. Proposes options based on user needs and recommends most feasible plan of action.
- ◆ 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

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or scripting languages.

- ◆ Ensures moderately complex programming projects are planned, programmed, tested & implemented by project deadlines.
- ◆ Performs in-depth technical advisement and problem resolution on all personal computer hardware and software problems including operating system (OS), file operations, local and networked printing.
- ◆ Performs moderately complex installations and troubleshoots <e.g., ITS> supported applications and clients, TCP/IP client installations such as Telnet, FTP, web, email clients, and direct and dialup network setup and 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.

#### **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.
- ◆ Corrective action may include replacement or reconfiguration of hardware, software, firmware or physical network connections. Corrective action may also involve the coordination or collaboration with 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.
- ◆ Install and terminate various types of standard, low-voltage communications cabling, including but not limited to, <insert specific components as appropriate, e.g., CAT5 UTP,

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CAT6 UTP, CATV coax, single and multi-mode fiber>

- ◆ Create, modify or update network, process or customer documentation.
- ◆ Coordinate project efforts or work tasks that may include integrating the work of other IT professional staff, student technicians, contractors and suppliers.
- ◆ Coordinate 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, manage 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.

#### **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 and are announced. Also passes on technical comments and 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.