

(910Axx, 910Bxx, 910Cxx, 910Dxx)
9104A, 9104B, 9104C, 9104D

**Information Technology Specialist
Class Specifications
Demonstration Project**

I. Definition

The Information Technology Specialist series is characterized by positions which provide professional information technology leadership and support services for the system, campus, college, unit or program on a variety of existing and emerging information technologies. A position in this series serves as a generalist or specialist in one or more of the following specialty areas:

- *Multi-user System Administration*
- *System Analysis and Development*
- *Database Management and Administration*
- *User Technical Support and Consultation*
- *Multimedia Development*
- *Networking*

Work involves the application of appropriate standards, competencies and practices in accordance with industry standards and guidelines. The evolving technologies are researched, evaluated and adapted to the appropriate campus, college, unit or program as appropriate.

II. Class Concepts

Information Technology Specialist - Band A

910Axx / 9104A

Functions as an independent professional providing support on a variety of existing, marketed information technologies in accordance with professional industry standards, guidelines and methods. Applies knowledge and skills to identify, evaluate and determine diverse alternatives to resolve practical technical problems in an effective and timely manner. Applies variations of techniques, processes and methods to provide technical assistance to individuals and groups who are mostly non-technical. Serves as an adviser to users on the capabilities, limitations, operational impact and technical requirements for adapting existing, marketed information technologies. Problems are resolved to improve output, productivity and efficiency through the application of existing information technologies, explicit guidelines and known practices to support program operations, to optimize system, hardware and software performance, and to accomplish work assignments in a timely manner. Receives moderate supervision and works with general directions.

Information Technology Specialist - Band B**910Bxx / 9104B**

Functions as a fully functional and competent professional in providing the full range of support on existing and emerging information technologies in accordance with broadly defined guidelines and little or no technical standards. 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 unit operations, multiple platforms and numerous users. Designs and develops new systems, technical features, components, capabilities, guidelines, standards and practices that directly impact the unit and other units, and sets the technical direction for the unit. Advises individuals and groups having diverse viewpoints and opinions on the most appropriate, effective and efficient solutions. Serves as technical resource to non-technical administrators, faculty and staff and to other IT professionals. Receives little or no technical review of actions plans.

Information Technology Specialist - Band C**910Cxx / 9104C**

Functions as a recognized expert advisor, leader or supervisor in the provision of innovative and comprehensive technical support services on emerging, experimental and prototypical information technologies, systems and software. Serves as (1) a highly advanced and recognized expert and leader, or (2) a supervisor of a staff of subordinate IT professionals providing the full range of technical support services on emerging information technologies requiring creativity beyond theoretical limits in the application of evolving and innovative technologies to broadly defined concepts and objectives. Systems, hardware and software reflect a highly sophisticated and state-of-the-art nature, and highly complicated technological infrastructure and environment across vast platforms.

Sets the direction for the development and application of emerging, experimental, prototypical and state-of-the-art technologies and systems, not common or utilized in the industry, and functions with little or no application of industry standards. Sets direction for the design, development and adoption of new and existing systems, software, networks or equivalent to support diverse and multiple platforms utilizing such technologies, and makes decisions having highly consequential impact on the direction of information technologies for the unit. Develops new and innovative alternatives to address atypical requirements unresolvable through existing and marketed technologies and software. Performs extensive and comprehensive analysis of all environmental factors including technical, organizational and budgetary. Serves as a highly regarded and recognized senior expert technical advisor and leader in the field. Works with much discretion and independence and no technical supervision.

Information Technology Specialist - Band D**910Dxx / 9104D**

Functions as (1) division manager of a systemwide IT unit with professionals responsible for providing innovative and comprehensive support services or (2) the highly exceptional and widely recognized expert in the University engaged in the provision of state-of-the-art information technology support services, unprecedented in the industry and state, and affecting the information technology movement of a system and its campuses. Determines and sets the direction and leadership of the overall technologies or specialized functional area for the system and its campuses that deviate from theories, concepts and practices. Works with broad objectives and justifies, negotiates, persuades and sets direction and leadership for the system or for a program having comparable impact, and possesses authority to make significant decisions regarding technology application systemwide or comparable.

As division manager, sets the direction for a systemwide program and provides the overall leadership, planning, direction, organization and evaluation of systemwide IT programs and activities to support instruction, research, public service and administrative units. Develops short- and long-range plans, and develops systemwide policies. Serves as highly influential advisor to senior executives and managers.

As expert, functions as the top-level individual contributor essential to the development and direction of unprecedented information technologies having significant systemwide, statewide or comparable impact. Functions as the widely recognized expert in the development and implementation of state-of-the-art and “cutting edge” ideas and concepts. Sets precedence for future developments in the system, state or comparable.

III. Minimum Qualification Requirements

As typically acquired/evidenced by pertinent baccalaureate educational degree and relevant professional experience, possession of the following competencies in technical knowledge, critical thinking skills, communication skills and interpersonal skills:

Band A

- Functional knowledge of assigned specialty area(s) demonstrated by knowledge, understanding and ability to apply principles, concepts, methodology and terminology.
- Functional knowledge and understanding of technology, systems, hardware and software associated with work specialty.
- Demonstrated ability to recognize problems, identify possible causes and resolve routine problems.
- Demonstrated ability to understand oral and written documentation, write reports and procedures, and communicate effectively in a variety of situations.
- Demonstrated ability to establish and maintain effective working relationships with internal and external organizations, groups, team members and individuals.

Band B

- Considerable working knowledge of assigned specialty areas(s) as demonstrated by the broad knowledge and understanding of the full range of pertinent standard and evolving information technology concepts, principles and methodology.
- Considerable working knowledge and understanding of the broad technology, systems, hardware and software associated with work specialty.
- Demonstrated ability to recognize a wide range of intricate problems, use reasoning and logic to determine accurate causes, and apply principles and practices to determine, evaluate, integrate, and implement practical and thorough solutions in an effective and timely manner.
- Demonstrated ability to interpret and present information and ideas clearly and accurately in writing, verbally and by preparation of reports and other materials.
- Demonstrated ability to establish and maintain effective working relationships with internal and external organizations, groups, team leaders and members, and individuals.
- For supervisory work, demonstrated ability to lead subordinates, manage work priorities and projects, and manage employee relations.

Band C

- Advanced and comprehensive knowledge and understanding of a wide range of developing and emerging information technology concepts, principles and methodologies of the assigned work specialty area(s).
- Comprehensive knowledge and understanding of a wide range of interactive and integrated technology, systems, hardware and software associated with work specialty.
- Demonstrated ability to understand problems from a broad interactive perspective and use

reasoning to discern underlying principles and issues when problem solving, and apply creative thinking to resolve problems in new and unprecedented approaches.

- Demonstrated written and verbal competence in presenting ideas, concepts and models clearly using persuasion and negotiation to build consensus and cooperation.
- Demonstrated ability to establish and maintain effective working relationships with internal and external organizations, groups, team leaders and members, and individuals.
- For supervisory work, demonstrated ability to lead subordinates, manage work priorities and projects, and manage employee relations.

Band D

- Extensive knowledge of pertinent information technology principles, concepts and issues in assigned specialty area(s) including unconventional theories and new developments to issues and problems, and generation and development of new hypotheses and theories.
- Extensive knowledge of innovative, emerging and state-of-the-art principles, concepts and technology associated with assigned specialty area(s).
- Demonstrated ability to develop short- and long-term plans of actions, understand problems from a broad interactive and interconnected perspective, use unconventional reasoning to discern broad underlying principles and issues when problem solving, and apply innovative and precedent-setting thinking to resolve problems of large scope and impact.
- Demonstrated written and verbal mastery in presenting ideas, theories, issues and models clearly and accurately using persuasion and negotiation to build consensus and cooperation and provide long-term direction and leadership.
- Demonstrated ability to establish and maintain effective working relationships with internal and external organizations, groups and individuals.
- For supervisory work, demonstrated ability to lead subordinates, manage work priorities and projects, and manage employee relations.

IV. Illustrative Examples of Work Assignments

While specific examples are cited for ease of reference, it is recognized that technological advancements may occur and, as a consequence, the examples cited may cease to be appropriate. As such, the illustrative examples cited should be used as convenient guides only, and not absolute standards.

Band A Examples

Multi-user System Administration. Provides routine system maintenance (e.g., backup and recovery); administers a single system and user accounts; evaluates, installs, tests and maintains software; sets server and file access characteristics; provides system support for laboratories.

System Analysis and Development. Researches best external practices; develops and modifies simple or documented software and applications according to detailed specifications; designs,

develops and prototypes technical and user interfaces among devices and packages; supports acquired third-party software; performs tasks in an integrated development environment.

Database Management and Administration. Provides day-to-day technical support for small, less complex databases; develops data entry and retrieval interfaces; utilizes tools to perform general database maintenance; modifies database tables.

User Technical Support and Consultation. Provides day-to-day technical support, generally by referring to standard references; trains users on supported platforms and software; installs hardware and software; updates hardware, software licenses and network connectivity status.

Multimedia Development. Implements static or dynamic web pages using supported tools; translates and converts graphics and media between analog and digital formats; produces multimedia products according to script or detailed guidelines.

Networking. Installs and configures voice, data and video communication cable and hardware using established procedures; diagnoses and resolves connection and network interface problems; resolve problems with well-understood hardware and software; monitors performance with appropriate hardware and software tools; executes well-defined security procedures.

Band B Examples

Multi-user System Administration. Manages multiple systems; evaluates new technologies for long-range planning; specifies technical requirements and possesses authority to allocate resources; sets up and maintains security, email, network services, etc.; develops and maintains technical standards, documentation, user guidelines, etc.; monitors system performance; customizes operating system to meet project requirements.

System Analysis and Development. Modifies undocumented software, applications and tools; provides logical process designs and data structures for new systems; defines interface specifications to integrate with system design; translates project, user and system specifications into programming requirements involving complex data exchange among multiple programs and/or requiring sophisticated program logic; develops reusable software modules; develops software test procedures; establishes programming standards and conventions.

Database Management and Administration. Provides day-to-day technical support for large complex databases; develops scripts for data loading, database backup and restore procedures; installs and maintains databases; modifies database for major structural changes.

User Technical Support and Consultation. Provides complex technical end-user hardware, software and network support; evaluates user needs to develop technical requirements; develops training programs; provides expert technical consultation in discipline-specific areas; evaluates hardware and software for program applicability; implements support service strategies.

Multimedia Development. Develops custom web-based information systems with dynamic content; designs effective information management and retrieval system; provides training and technical support for digital media applications; develops multimedia products based on user requirements; evaluates hardware and software for applicability to multimedia development.

Networking. Plans installation of voice, data and video communication cable and hardware, including configuring gateways, routers and complex communications systems; evaluates hardware and software for applicability to institutional requirements; develops requirements for user needs; determines corrective action against intrusions and unanticipated incidents; designs methods to evaluate network performance.

Band C Examples

Multi-user System Administration. Manages emerging, experimental and prototypical systems, and multiple heterogeneous and large, interconnected systems; plans and implements new architectures for improvements to technology environment by analyzing and applying industry trends; determines acquisition of hardware and software for highly technical user needs; researches and investigates specialized computing options and solutions.

System Analysis and Development. Designs software architecture for multi-platform, multi-user systems; defines overall system scope, design and functionality; analyzes complex institutional requirements and devises optimal solutions, including process reengineering; establishes team methodologies; designs complex authentication and authorization systems for security; develops unique software unavailable in the market; serves as senior consultant at the highest level (e.g. answers questions that vendors often cannot answer) to other programmers.

Database Management and Administration. Designs and redesigns databases for highly complex applications; designs and implements schemes for database translation and loading; customizes performance tuning for real-time transaction processing in complex application environment.

User Technical Support and Consultation. Designs support service strategies for multiple platforms and services in large multi-level organizations; supports complex applications on emerging, experimental, prototypical systems; serves as senior consultant at the highest level (e.g. answers questions that vendors often cannot answer) to other support staff.

Multimedia Development. Sets technical standards for development activities; creates original innovative product designs, templates and formats; designs and develops complex reusable multimedia tools; plans interactive courseware based on requirements; designs user interface approaches.

Networking. Manages emerging, experimental and prototypical networks; manages multiple heterogeneous and large, interconnected networks; plans new architectures for technology environment improvements by analyzing and applying industry trends; prepares comprehensive,


long-range, network plans; serves as senior consultant at the highest level (e.g. answers questions that vendors often cannot answer) to managers and other support staff.

Band D Examples

System Division Manager: Exercises direction and control over division functions and activities; provides overall review of system and network capacity affecting the system; develops goals, objectives and long-term and short-term system plans and strategies; determines technical and financial ramifications for evaluation of innovative and state-of-the-art strategies; develops and modifies systemwide policies and procedures; assesses the impact of applicable changes in local, state and federal laws, directives, policies and procedures; forecasts trends and advances in information technologies and the application to higher education institutions.

Expert: Determines the development, modification and implementation of action plans; develops the technical specifications and standards in absence of industry guidelines and standards; determines budgetary and other resources necessary for development, implementation and evaluation; works closely with national and international experts from IT fields to gain insight on industry conceptual and experimental developments; advises system IT professionals on new developments and application to system or comparable functions and infrastructure design.

This is the initial specifications for Information Technology Specialist, Bands A, B, C and D, effective July 1, 1999.

Approved:  Date: 09/05/00
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