

**CITY OF SALEM DATA CENTER**

**INFORMATION SYSTEMS SPECIALIST SERIES**

0854	INFORMATION SYSTEMS SPECIALIST 1	0858	INFORMATION SYSTEMS SPECIALIST 5
0855	INFORMATION SYSTEMS SPECIALIST 2	0859	INFORMATION SYSTEMS SPECIALIST 6
0856	INFORMATION SYSTEMS SPECIALIST 3	0860	INFORMATION SYSTEMS SPECIALIST 7
0857	INFORMATION SYSTEMS SPECIALIST 4		

**SERIES DESCRIPTION**

The INFORMATION SYSTEMS SPECIALIST (ISS) classification series has seven job classes that describe information systems technical and professional non-supervisory work. The series and its accompanying Classification Plan represent a modification of the current (July, 2000) State of Oregon IS Classification Plan. The series includes responsibility for planning, coordination, analysis and technical support functions in the support of a wide range of diverse and complex information systems needs and environments.

When deciding whether a position is properly allocated to the ISS series, the paramount considerations are (1) the primary purpose for the position and (2) the recruitment criteria. If the position requires more information systems technical knowledge and experience than it does other types of knowledge and experience, it is likely a position appropriate for inclusion in this series. If the reverse is true, the position should be placed in a general job class or into a job class developed specifically for the work and products expected of the position.

This class series specification includes general descriptions of items in a classification matrix. The matrix forms the basis of the job analysis that determines a position's appropriate ISS class. The items include:

Infrastructure Functions (Communications, Software, Hardware, and Data Management); Organizational Functions (Customer Assistance, Systems Maintenance & Operations, Product Development, and Planning), Specialist vs Generalist, and Complexity Levels. The net result of an analysis in this methodology is a job profile for a position.

Please refer to the Information Systems Classification Plan for a more detailed explanation of the methodology for determining the class level of an ISS position.

**INFRASTRUCTURE FUNCTIONS**

Communications provides the connections that link systems and includes data, voice, image and video

Software includes both applications and operating software

Hardware refers to the physical components (PCs, servers, mainframes, peripherals, etc.)

Data Management is concerned with the structure of databases and associated master files.

**ORGANIZATIONAL FUNCTIONS**

## SPECIALIST vs GENERALIST

Customer Assistance (CA) is assisting user to fix or directly fixing immediate problems of all sorts.

Systems Maintenance & Operations (SO) refers to the day to day functions supporting systems and includes such things as installation, performance monitoring, periodic systems maintenance, access, daily security, back-up, scheduling, inventory management and the processing of orders (for reports).

Systems Development (SD) refers to new systems and features and covers major remodels and enhancements as well as new systems.

Planning (PL) is strategic, long term planning. This is NOT the regular, on-going planning required in project planning. This is strategic planning where it is a significant aspect of a position's assignment. It addresses issues such as resource utilization, disaster planning, new technologies and acquisition strategies, change control management, system performance, and overall security.

A position is either a specialist or a generalist, depending on how many of the Infrastructure Functions (Communications, Software, Hardware, Data Management) comprise the majority of the job. A specialist typically spends 70% or more of work time on one or two of the infrastructure functions. The generalist divides work time more or less evenly among three or four infrastructure functions.

## COMPLEXITY LEVELS

There are varying levels of complexity connected with the work in this series. The Complexity Levels should not be confused with the broad ISS 1 through 7 classification levels. Complexity Levels relate to the tasks (the work being done) and are based on the factors that influence those particular tasks. These factors include, but are not limited to . . .

- size, scope and criticality of the environment,
- diversity of systems,
- independence of decision-making,
- availability of guidelines,

Please refer to the allocation guide for more detailed information regarding Complexity Levels and scope. The following gives a brief description of the characteristics of the level:

Complexity Level 1 generally are task that are clearly defined, the scope of which are somewhat limited. However, the tasks may support a broad range of customers. In addition, level 1 complexity includes higher level tasks performed in training and under close supervision.

Complexity Level 2 generally represents tasks that are broader and often do not have clearly defined processes. The tasks support a wide range of customers and are critical to the maintenance and operations of major systems.

Complexity Level 3 generally represents tasks that have no defined processes for problem resolution, require considerable analysis of conflicting issues, and include making decisions as the "last resort" in major programming or system problem resolutions. In addition, impact is significant in terms of both size and variety of the customer base and the criticality of the customer systems being supported.

Complexity Level 4 is defined for a limited number of infrastructure/organizational functions. Since it use is limited, it obviously reflects a perceptual bias that complexity is potentially higher where it is defined, such as in Data Management. However, within the context of the Data Center IS Classification Plan, it no more influences the determination of classification level than a Level 3 Complexity.

<b>JOB PROFILE</b>
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Through the ISS Classification Plan, each position receives a job profile. The profile indicates whether the job is a specialist or generalist and at what Complexity Level the job is for each significant infrastructure function. As an example, CA 2, SO 2, PD 2, PL 1 (CA = Customer Assistance; 2 = Complexity Level 2, etc.) From the job profile, the ISS job class level is determined.

## **GENERAL CHARACTERISTICS OF THE ISS LEVELS**

Following is a brief and general description of each ISS job class. Each description is not comprehensive. The ISS Classification Plan provides the detail and basis for the analysis and decision regarding a position's classification.

### **INFORMATION SYSTEMS SPECIALISTS 1 - 3**

The ISS 1 through 3 support operations, maintenance, and installation of systems, help users with system maintenance, and may assist to a degree with constructing new and enhancing existing systems. The scope is relatively narrow compared to positions allocated to ISS 4 and above.

ISS 1 through 3 job classes focus on Customer Assistance and Systems Maintenance & Operations. As a specialist or generalist, the ISS 1 is almost exclusively Customer Assistance at Complexity Level 1. The ISS 2 level, as a specialist, adds some Product Development assistance at Complexity Level 1, while the generalist may not assist significantly with Product Development. All tasks are generally at the 1 level. The ISS 3 begins to reflect Complexity Level 2 in Customer Assistance and Systems Maintenance & Operations with some Product Development at Complexity Level 1. There are some differences in position classification based upon whether the job is primarily Software versus a mix of the other infrastructure functions (Communications, Hardware, Data Management). Years of experience required would be relatively light (under 2 years).

Positions in the first three ISS job classes have daily contact with system users to answer questions, solve problems and clarify instructions; and with other Information Systems support staff to receive help in solving problems, and to ensure conformity with agency standards and practices.

The ISS 1 generally works within well-defined guidelines and receives supervision from a supervisor or team leader. More independence is characteristic as positions go from ISS 1 to ISS Work is spot-checked for accuracy and completed assignments reviewed for conformance with timelines, production standards, and policies and procedures.

### **INFORMATION SYSTEMS SPECIALISTS 4 - 6**

The ISS 4 operates, maintains, and installs information systems, designs and constructs new software systems, or modifies and enhances existing systems, and helps users accomplish work and solve system problems. The ISS 4 is either a specialist or generalist in Software. This is the journey professional level for the series in which positions with traditional working titles such as "programmer analyst" and "systems analysts" would be allocated. Years of experience required would go from relatively light (2 years) to considerable (5 years).

At this level, the software specialist with Complexity Level 2 in Customer Assistance, Systems Maintenance & Operations, and Product Development is classified. It is the first rung on the series ladder that reflects considerable analytical work to solve significant software issues.

ISS 5 adds to the ISS 4 profile, Planning at Complexity Level 2 for the specialist and Planning at Complexity Level 1 for the generalist. Optionally, Customer Assistance and Systems Maintenance & Operations at Complexity Level 3 will support an ISS 5 position classification.

ISS 6 is the first rung that reflects Complexity Level 3 in the basic three infrastructure functions (Customer Assistance, Systems Maintenance & Operations, and Product Development. Generally, it represents senior level (experience requirements) staff in “program analysis”, “systems analysis”, and “systems programming”. A generalist would be allocated to ISS 5 with Complexity Level 3 in Customer Assistance and Systems Maintenance & Operations, and Complexity Level 2 in Product Development.

Positions in job classes ISS 4 through 6 worked very independently, differing primarily in the scope of work, and in the nature and complexity of customers and systems supported.

### INFORMATION SYSTEMS SPECIALIST 7

The ISS 7 provides expertise and/or leadership among ISS staff positions at lower classifications. Positions are allocated to ISS 7 either because they formally “lead” ISS 6 staff on a regular basis, or because they act as sole “last stop” or sole “expert” in a single major systems area. In the “lead” role, the positions allocated here lead “project leaders”. Generally, allocation of a position to ISS 7 is not based upon the position having single project lead responsibility over a large project where assistance comes primarily from staff at ISS 5 and below. Years of experience required would be considerable (5 plus years).

The ISS 7 has daily contact with management, professional IS staff, and a wide range of agency and other jurisdiction staff to provide expert advise and consultation on a regular basis in planning, development, implementation and coordination for the effective operations, maintenance, development and installation of information systems. The ISS 7 has frequent contact with vendors to assess new technology and with contracted personnel to provide oversight, negotiate contract modifications, and analyze compliance with contract specifications.

The ISS 7 operates under managerial direction. It consults with supervisor to establish overall program or project objectives. The ISS 7 works with substantial latitude for unreviewed action and decisions, and informs the supervisor on progress, potentially controversial issues, or far-reaching implications. Work review is on completion from an overall standpoint in terms of feasibility, compatibility with other units, and effectiveness in meeting expected results.

Technical and administrative guides, policies and precedents provide guidance but generally require considerable interpretation by positions at this job class level. The ISS 7 must interpret and apply these guidelines on the basis of specialized training and experience. The ISS 7 devises and applies new approaches and previously unused methods within existing information technological concepts and theories.

### **MINIMUM QUALIFICATIONS** (May vary depending upon the position)

C = Considerable: 5+ yrs of experience\*

S = Some: < 2 yrs experience\*

G = General: 2+ yrs of experience\*

blank = Not significant

\* Related education may substitute for some of the experience, depending upon the position.

KNOWLEDGE OF . . .

<b>Focus</b>	<b>ISS 1</b>	<b>ISS 2</b>	<b>ISS 3</b>	<b>ISS 4</b>	<b>ISS 5</b>	<b>ISS 6</b>	<b>ISS 7</b>
trends, technological changes and developments in IS	S	S	G	G	C	C	C
theories, principles and practices of Information Systems Technology	S	S	G	G	G	C	C
operations and business of the organization			S	G	G	C	C
methods and procedures for designing, developing, monitoring and maintaining databases.			S	G	G	C	C
automation products that support a variety of data management environments			S	G	G	C	C
project administration methods, principles, techniques and practices			S	S	G	C	C
information systems architecture				S	S	G	C
business systems and organizational structures	S	S	S	G	G	G	G
contracting for IS services, including negotiation and performance monitoring				S	G	G	G

ABILITY TO . . .

<b>Focus</b>	<b>ISS 1</b>	<b>ISS 2</b>	<b>ISS 3</b>	<b>ISS 4</b>	<b>ISS 5</b>	<b>ISS 6</b>	<b>ISS 7</b>
develop policies and procedures	S	S	G	G	G	G	G
assign and review the work of others to determine accuracy and adequacy of identified conditions, criteria, recommendations and supporting materials		S	S	G	G	C	C
determine efficient design of data structures, software applications and equipment interfaces			S	G	G	C	C
analyze organizational needs and implement cost-effective solutions			S	G	G	C	C
assess new technology developments.			S	S	G	C	C
identify the scope and complexity of a project and assigning segments of that project to others.					G	C	C
develop agreements or contracts				S	G	G	C
administer and manage comprehensive, multi-system projects including directing and motivating internal staff, contractors and other participants				S	S	G	C
develop long and short range plans to meet established goals					S	G	C

NOTE: The KNOWLEDGE and ABILITIES are required for initial consideration. Some duties performed by positions in this class may require different knowledge and abilities. No attempt is made to describe every knowledge or ability required for all positions in this class series. Additional requirements will be explained on the recruiting announcement.

New series replaces all Data Center technical job classes  
Established 7/2000

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Personnel Director