

**SERIES DESCRIPTION**

The INFORMATION SYSTEMS SPECIALIST (ISS) classification series has eight levels that describe technical and professional non-supervisory positions working in Information Systems. The work in this series includes responsibility for planning, coordination, analysis and technical support functions. Positions solve problems and accomplish work processes through information systems and technology.

When deciding whether a position is properly allocated to the ISS series, the paramount considerations are the primary purpose for the position and the recruitment criteria. The knowledge of computers and information systems is an increasingly important part of many occupational fields. In most instances, the computer knowledge is secondary to the knowledge and skills associated with the occupational field. The computer is a tool to facilitate accomplishing the work. In this case, the position does not belong in the ISS Series.

There are three components to these Class Specifications: **Infrastructure Functions, Organizational Functions, and Complexity Levels.**

**1. Infrastructure Functions**

**Software** includes both applications and operating software;

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

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

**Data** is concerned with data bases and associated master files.

A position is either a Specialist or a Generalist, depending on how many of these Infrastructure Functions are covered by 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. The series describes both Specialists and Generalists at most levels.

**2. Organizational Functions**

**Customer Assistance (CA)** is user assistance, systems maintenance and fixing problems of all sizes;

**Operations (OP)** is the day to day functions and includes such things as installation, performance monitoring, access, daily security, back-up, scheduling, inventory management and processing orders;

**Construction (CO)** refers to new systems and features and covers major remodels and enhancements as well as new systems; and

**Planning (PL)** is strategic, long term planning. This is not the regular, on-going planning required in many jobs. This is strategic planning as a separate primary job function and addresses issues such as resource utilization, disaster planning, new technologies and acquisition strategies, change control management, system performance, and overall security.

Both Specialists and Generalists work in one or more of these organizational functions.

**3. Complexity Levels**

There are varying levels of complexity connected with the work in this series. Complexity levels relate to the tasks (the work being done) and are based on the factors that influence those particular tasks. These factors include the size, scope and criticality of the environment, the diversity of systems, degree of independence, available guidelines, etc. Please refer to the allocation guide for more detailed information regarding complexity levels and scope.

## **GENERAL DESCRIPTION OF CLASS**

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 in Software or a Generalist. This is the Journey Professional level for the series.

## **DISTINGUISHING FEATURES**

This is the fourth level in an eight level series. It covers both Specialists and Generalists.

The Specialist at this level works 70% of the time in Software or Software and one other infrastructure function (Communications, Hardware, or Data). This Specialist differs from the next lower level by doing complexity level 2 Construction, which typically deals with new processes within established business, mixed standards, compatibility issues and a variety of users.

The lack of regular requirement for Strategic Planning or the lack of complexity level 3 Customer Assistance and Operations distinguishes this level from the next higher level. Level 3 Customer Assistance and Operations involves establishing processes and procedures for others to use, consulting with and advising other IS staff, and dealing with the most critical problems.

The Generalist at this level works across Infrastructure functions predominantly in Customer Assistance and Operations. It differs from the next lower level by working at complexity level 2 which requires more in-depth analysis and independent decision making and involves integrated systems affecting significant numbers of users and requiring greater coordination of activities with others. It differs from the next level by the lack of Construction work.

## **RELATIONSHIPS WITH OTHERS**

The ISS 4 has daily contact with technical staff and a wide range of system users to provide technical information and solve problems; with other Information Systems staff, vendors and other external entities to coordinate problem solving and ensure conformity of methods and practices. The ISS 4 has regular contact with users to discuss operational or business needs and system requirements, with staff throughout the organization to coordinate installation or construction projects, and with vendors to exchange information on existing or new technology.

## **SUPERVISION RECEIVED**

The ISS 4 works under general supervision according to scheduled activities, as problems come up or in terms of general project objectives. Overall performance is reviewed for technical accuracy and conformance with standards.

Guidelines required for the job are contained in various operational manuals. Agency and unit policies, processes and procedures provide guidance.

## **GENERAL INFORMATION**

Some ISS 4 positions occasionally work extended or nonstandard work schedules.

**EXAMPLES OF DUTIES AND ACCOUNTABILITIES**

The duties and accountabilities listed are not inclusive, but characteristic of the type and level of work associated with this class. Individual positions may be assigned all or some combination of the duties described as well as other related duties.

**SPECIALIST - SOFTWARE: CUSTOMER ASSISTANCE, OPERATIONS, CONSTRUCTION -  
COMPLEXITY LEVEL 2**

This Specialist works 70% of the time in Software or Software and one of the other three infrastructure functions, and does Customer Assistance, Operations and Construction at complexity level 2, as described below.

**1. Customer Assistance (help use & fix): - Complexity Level 2**

Answers both routine and unique questions from users and diagnoses problems. Typically deals with problems caused by software rather than operator error and those that are recurring or have widespread consequences. Fixes software.

Helps users and answers unusual or less common questions which may be referred from other IS staff or require on-site analysis or extensive dial-in diagnosis. Assesses situation and deals with implications to the overall system.

Contacts vendors and other external entities to coordinate problem solutions. Prioritizes problems and works with users, vendors and other parties to resolve conflicts. Tracks and reports progress. Assists users with reporting. May conduct both formal and informal training for assigned infrastructure(s). May physically repair hardware.

**2. Operations (day-to-day) - Complexity Level 2**

Installs software new to the agency or division and coordinates the changes with other systems or users affected by the installation. Modifies new software for version compatibility. Analyzes system performance for systems containing a variety of applications and operating systems. Resolves problems, including contacts with vendors.

Tracks operational and system changes in preparation for recovery needs. Addresses day-to-day security issues and may implement new or unique changes to system security (e.g., first time vendor dial-in). Processes orders for purchases not under contract or those that require a Request For Proposal. Manages inventory.

This level typically operates in a mixed environment with multiple hardware and application software standards. Normally there is a single operating system standard. May have mixed data bases and share data with other entities. Generally involves remote locations with no established backbone, a moderate level of expansion or change and a moderate number of devices.

**3. Construction (new) - Complexity Level 2**

Conducts business analysis and research on significant portions of a large system or on a new process within an established business. Identifies and deals with compatibility issues. Addresses a variety of users and deals with a mixture of standards for assigned infrastructure function(s) and a moderate level of change. Negotiates with vendors and chooses vendor from existing contracts. Builds implementation plan. Creates documentation. For data projects, uses data dictionary and may establish standards and precedents for data base design.

Environment typically has remote locations and projects may require cross-agency or cross-jurisdiction cooperation.

**GENERALIST: CUSTOMER ASSISTANCE, OPERATIONS - COMPLEXITY LEVEL 2**

The Generalist at this level works in three or four infrastructure functions (Communications, Software, Hardware, or Data) and typically does both Customer Assistance and Operations at complexity level 2, as described below.

**1. Customer Assistance (help use and fix) - Complexity Level 2**

Helps users and answers unusual or less common questions which may be referred from other IS staff or require on-site analysis or extensive dial-in diagnosis. Typically deals with problems that are recurring or have widespread consequences and those that require actual system fixes rather than eliminating operator errors. Assesses situation and deals with implications to the overall system.

Contacts vendors and other external entities to coordinate problem solutions. Prioritizes problems and works with users, vendors and other parties to resolve conflicts. Tracks and reports progress. Assists users with reporting. May physically repair hardware and write or configure software. May conduct both formal and informal training for assigned infrastructures.

The Generalist answers questions and solves problems related to at least three of the four infrastructure functions.

**2. Operations (day-to-day) - Complexity Level 2**

Tasks in this Organizational Function relate to keeping the operations going on a day-to-day basis. This includes installation, performance monitoring, access, security, back-ups, scheduling, inventory management and processing orders.

Installations at this level often do not have precedents or established procedures to follow and could be the initial installation, requiring configuration modifications, testing and troubleshooting (for example, software new to the agency/division or major hardware upgrades). Installations at this level usually require coordinating the changes with other systems or users affected by the installation. Writes installation documentation and maintains data dictionary.

Monitors performance of software, hardware, data base or communications systems and diagnoses and solves problems. Manages physical storage of data bases. Deals with version compatibility issues. Tracks operational and system changes in preparation for recovery needs. Addresses day-to-day security issues and may implement new or unique changes to system security (e.g., first time vendor dial-in). Processes orders for purchases not under contract or those that require a Request For Proposal. Manages inventory.

This level typically operates in a mixed environment with multiple hardware and application software standards. Normally there is a single operating system standard. May have mixed data bases and share data with other entities. Generally involves remote locations with no established backbone, a moderate level of expansion or change and a moderate number of devices.

## KNOWLEDGE AND SKILLS (KS)

**SPECIALIST** positions require the following Knowledge and Skills in Software or Software and one other infrastructure function.

### General Knowledge of:

- software development methods including analysis, design and programming standards and techniques.
- information system analysis, design and data management concepts.
- information systems operating software and operating systems language.
- performance monitoring techniques.
- feasibility study and cost/benefit analysis methods.
- business analysis and research.
- testing and troubleshooting techniques.

### Basic Knowledge of:

- operations and business of the agency.
- references and resources for State and Federal law and administrative rules specific to the program area.
- project management methods and techniques.
- state purchasing procedures and resources.
- requirements development based on user needs and business rules.

### Skill:

- using programming languages and utilities.
- developing systems specifications.
- writing technical reports and instructional manuals for operations and users.
- analyzing and defining user requirements.
- testing and debugging information programs and systems.
- planning and implementing special tasks or projects.
- coordinating and directing team efforts.
- estimating resource requirements.
- developing, coordinating or presenting staff training.
- evaluating proposed new software resources.

**GENERALIST** positions require the following Knowledge and Skills in at least three of the four Infrastructure specialties.

### General Knowledge of:

- equipment, technologies, terminology, methods, and procedures for infrastructure speciality(ies).
- computer components and capabilities.
- interrelationships between computer systems hardware and software.
- performance tuning and monitoring techniques.

### Basic Knowledge of:

- project planning and coordination.
- purchasing procedures.
- testing and troubleshooting techniques.

**Skill:**

- **analyzing and diagnosing system problems and coordinating solutions.**
- communicating technical concepts to users.
- installing and modifying hardware, software and/or data communications equipment.
- writing documentation according to established standards.
- analyzing and defining user requirements.
- writing technical reports and instructional manuals for operations and users.
- developing, coordinating or presenting staff training.
- evaluating proposed new system resources.

***Some Generalist positions may also require one or more of the following:***

**General Knowledge of:**

- data communications hardware, software and equipment components (e.g., modems, multiplexors, lines, etc.).
- data management concepts.

**Basic Knowledge of:**

- hardware configuration.

**Skill:**

- configuring and assembling micro/mini/mainframe computer hardware.
- coordinating with other analysts and administrators on team/group projects.

**NOTE:** The KNOWLEDGE and SKILLS are required for initial consideration. Some duties performed by positions in this class may require different KS's. No attempt is made to describe every KS required for **all** positions in this class. Additional KS requirements will be explained on the recruiting announcement.

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Revised

STATE OF OREGON  
 Dept. of Administrative Services  
 Human Resource Services Division