Iowa Department of Administrative Services – Human Resources Enterprise
Classification Series Guidelines

Information Technology Specialist Series

Classes in the Series

Class Code	Class Title
00118/90118	Information Technology Specialist 1
00119/90119	Information Technology Specialist 2
00120/90120	Information Technology Specialist 3
00121/90121	Information Technology Specialist 4
00122/90122	Information Technology Specialist 5

Series Concept

Positions in this series provide professional level information systems and information technology functions, which may fall within any one of the following areas of work:

1. Application Development and Database Management
2. Business Analysis
3. Systems and Network Administration
4. Technical Training and Reporting
5. IT Vendor and Purchasing Management
6. Project Management
7. Product Management
8. System Testing and Quality Assurance
9. Mainframe and Platform Administration
10. Enterprise IT Security

Once the area(s) of work within this list is determined, the class distinctions and the charts that follow should determine the level of the classification within the Information Technology Specialist series.

Exclusions

The following are excluded from classification within this series:

1. Positions that include full supervisory functions.
2. Positions whose primary purpose is not in the information technology area.

Definitions

The following terminology and descriptions are applicable to the class distinctions:

1. <u>Application Development and Database Management</u>

   Work is focused on building and maintaining software applications and managing data storage systems. Typical duties include:

   - Designing, developing, testing, and deploying software applications.
   - Writing and maintaining code using programming languages (e.g., Java, .NET, Python).
   - Designing and optimizing relational and non-relational databases.
   - Ensuring data integrity, security, and availability.
   - Developing and enforcing data and coding standards according to best practices.

- Collaborating with stakeholders to gather application requirements.
- Performing database backups, restores, and performance tuning.

2. Business Analysis

   Work is focused on bridging the gap between business needs and IT solutions. Typical duties include:

   - Gathering and documenting business requirements.
   - Analyzing business processes and identifying areas for improvement.
   - Translating business needs into technical specifications.
   - Facilitating communication between stakeholders and technical teams.
   - Supporting testing and validation of solutions.
   - Conducting cost-benefit and impact analysis.

3. Systems and Network Administration

   Work is focused on installing and maintaining the infrastructure that supports IT operations. Typical duties include:

   - Installing, configuring, testing, and maintaining servers and network equipment.
   - Monitoring system performance and availability.
   - Managing user accounts, permissions, and access controls.
   - Troubleshooting hardware, software, and connectivity issues.
   - Applying patches and updates to systems.
   - Ensuring data backups and disaster recovery plans are in place.
   - Ensuring proper configurations are applied and aligned with security and business best practices.

4. Technical Training and Reporting

   Work is focused on educating users and providing insights through data and documentation. Typical duties include:

   - Developing and delivering IT training programs and materials.
   - Creating user guides, FAQs, and technical documentation.
   - Providing one-on-one or group training sessions.
   - Generating reports on system usage, performance, and incidents.
   - Analyzing training effectiveness and adjusting content accordingly.
   - Supporting onboarding of new employees with IT tools and systems.

5. IT Vendor and Purchasing Management

   Work is focused on managing relationships and expectations with technology vendors and enforcing procurement processes. Typical duties include:

   - Evaluating and selecting IT vendors and service providers.
   - Negotiating contracts, pricing, and service level agreements (SLAs).
   - Tracking and managing IT assets and inventory.
   - Ensuring compliance with procurement policies.
   - Monitoring vendor performance and resolving issues.
   - Coordinating renewals, upgrades, and licensing.

6. Project Management

   Work is focused on leading IT projects from initiation to completion. Typical duties include:

   - Defining project scope, goals, and deliverables.

- Developing detailed project plans and schedules.
- Allocating resources and managing budgets.
- Coordinating cross-functional teams.
- Monitoring progress and managing risks.
- Communicating status to stakeholders and ensuring timely delivery.

7. Product Management

   Work is focused on overseeing the lifecycle of IT products and services. Typical duties include:

   - Defining product vision, roadmap, and strategy with business input.
   - Gathering and prioritizing business requirements.
   - Collaborating with development, business, and support teams.
   - Monitoring product performance and user feedback.
   - Driving product enhancements and innovation.
   - Coordinating and defining user acceptance testing with the business.
   - Ensuring alignment with organizational goals and state strategic objectives.

8. System Testing and Quality Assurance

   Work is focused on ensuring software and systems meet quality standards. Typical duties include:

   - Developing and executing test plans and test cases.
   - Performing functional, regression, and performance testing.
   - Identifying, documenting, and tracking defects.
   - Collaborating with developers to resolve issues.
   - Automating testing processes where applicable.
   - Ensuring compliance with quality standards and best practices.

9. Mainframe and Platform Administration

   Work is focused on managing computing platforms. Typical duties include:

   - Monitoring job schedules, batch processing, and system logs for mainframe processes.
   - Applying system updates and patches.
   - Ensuring high availability and disaster recovery readiness.
   - Supporting platform-specific applications and tools.
   - Troubleshooting and resolving platform-specific issues.
   - Managing user access, roles, and permissions.
   - Configuring and monitoring core services (e.g., networking, storage, compute).
   - Ensuring compliance, security, and governance policies are enforced.
   - Managing billing, quotas, and resource usage.
   - Setting up automation and infrastructure-as-code (IaC) pipelines.

10. Enterprise IT Security

    Work is focused on protecting IT systems and data from threats and vulnerabilities. Typical duties include:

    - Developing and enforcing security policies and procedures.
    - Monitoring systems for security breaches and anomalies.
    - Conducting vulnerability assessments and penetration testing.
    - Managing firewalls, antivirus, and intrusion detection systems.
    - Responding to incidents and performing forensic analysis.
    - Ensuring compliance with regulatory and industry standards (e.g., NIST, ISO, HIPAA).

Class Distinctions

Information Technology Specialist 1

This is the trainee level of the series, in which employees work under close supervision, learning and supporting business applications processes, application development and database management, system and network administration, system testing and quality assurance, and/or mainframe/platform administration.

Information Technology Specialist 2

Employees in this class perform work in a journey-level capacity; while their work is not characterized by learning assignments, they work under close supervision supporting business applications processes, application development and database management, system and network administration, system testing and quality assurance, and/or mainframe/platform administration.

Information Technology Specialist 3

Employees at this level perform work under general supervision, often under the guidance of higher-level Information Technology Specialists or managerial positions. Employees perform intermediate-level professional responsibilities supporting business applications processes, application development and database management, system and network administration, technical training and reporting, project management, product management, system testing and quality assurance, mainframe/platform administration, and/or information technology security.

Information Technology Specialist 4

Employees at this level perform advanced-level professional analytical and modification responsibilities in supporting business applications processes, application development and database management, system and network administration, technical training and reporting, project management, product management, system testing and quality assurance, mainframe/platform administration, and/or information technology security. Positions in this class receive general supervision and operate with a moderate degree of independence, subject to review of final work product. Lead worker duties may be performed at this level.

Information Technology Specialist 5

Employees in this class perform senior-level professional leadership, analytical, and modification responsibilities in supporting business applications processes, application development and database management, system and network administration, technical training and reporting, project management, product management, system testing and quality assurance, mainframe/platform administration, and/or information technology security. Positions at this level exercise substantial discretion in determining technical approaches, priorities, and solutions within assigned areas. Employees receive general supervision and operate with a high degree of independence, with limited review of final work product. Lead worker duties are commonly performed at this level.

Guideline Charts

1. Application Development and Database Management

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
Learns and applies basic programming concepts and scripting for small-scale tasks. Assists with simple application updates and data entry processes. Supports basic web content updates and compliance with design standards. Follows established procedures for system access requests and lifecycle management. Work is closely supervised; impact of errors is minimal and limited to delays	Assists in developing and modifying applications based on established specifications. Creates basic reports, templates, and programming code under supervision. Performs routine database updates and supports data integrity checks. Provides first-line technical support for application issues and escalates complex problems. Begins contributing to documentation and training for end-users.	Maintains and enhances existing applications and databases, ensuring stability and compliance. Participates in design and development of new applications under project team guidance. Performs basic database administration tasks, monitors performance, and assists with troubleshooting. Contributes to data governance activities, including metadata documentation and quality checks. May act as project lead on small projects.	Leads application development projects, ensuring compliance with architecture and security standards. Oversees database design and optimization for large-scale systems. Acts as technical lead, providing direction to project teams and reviewing deliverables for quality and adherence to standards. Develops and enforces policies for LAN/WAN administration SDLC best practices, security, and data protection. Provides training and documentation for technical staff and end-users.	Designs, develops, and maintains complex applications and databases that support agency and enterprise functionality, ensuring scalability, security, and optimal performance. Works autonomously while providing team leadership, mentoring junior staff, and offering guidance to ensure team alignment and best practices. Leads strategic planning for modernization and integration of emerging technologies across multiple platforms.

2. Business Analysis

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
Learns and applies basic business analysis techniques under close supervision. Assists with data entry, simple report generation, and documentation updates. Shadows senior analysts during requirements gathering sessions. Performs routine tasks such as organizing meeting notes and maintaining requirement logs. Work is closely supervised; impact of errors is minimal and limited to delays.	Assists in gathering and documenting business requirements for small-scale applications or enhancements. Prepares basic process flow diagrams and simple reports. Supports testing activities by executing test cases and reporting defects. Provides first-line support for business users and escalate issues as needed. Contributes to user documentation and training materials.	Conducts requirements analysis for moderate to complex systems under general supervision. Works with stakeholders to document business processes and develop user stories or use cases. Assists in creating test plans and validating system functionality against requirements. Supports data analysis and reporting needs for assigned projects. Participates in project meetings and provides input on design decisions.	Serves as lead analyst for major projects, gathering and validating requirements for applications. Facilitates workshops with business units to document processes and identify improvement opportunities. Translates business needs into detailed functional and technical specifications. Coordinates with developers and architects to ensure solutions meet requirements and comply with security and compliance standards. Provides training and documentation for end-users and technical teams.	Leads business analysis initiatives to define complex requirements for mission-critical systems. Collaborates with executive stakeholders to align technology solutions with strategic objectives. Develops and maintains business process models, data flow diagrams, and functional specifications for large-scale applications. Provides consultative guidance on feasibility studies, cost-benefit analysis, and risk assessments. Mentors analysts and technical staff, ensuring adherence to best practices and standards. Drives continuous improvement and innovation across multiple agencies.

3. Systems and Network Administration

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
Learns and applies basic system and network administration tasks under close supervision. Assists with workstation setup, simple network connections, and routine maintenance activities. Follows established procedures for account creation and password resets. Work is closely supervised; impact of errors is minimal and limited to delays.	Under close supervision, assists with installation, configuration, and maintenance of servers and network components. Performs routine system monitoring, applies patches, and troubleshoots basic connectivity issues. Supports user account management and access control. Escalates complex problems to senior staff and maintains documentation of system changes.	Performs administration and maintenance of servers, network devices, and related systems under general supervision. Configures LAN/WAN components, applies security controls, and monitors system performance. Assists with troubleshooting complex issues and contributes to disaster recovery planning. Participates in infrastructure projects and provides input on design and implementation.	Leads administration of systems and network infrastructure. Configures and maintains servers, virtualization environments, and LAN/WAN connectivity. Develops and enforces policies for network security, disaster recovery, and data protection. Acts as technical lead for infrastructure projects, providing guidance to team members and ensuring compliance with standards. Provides training and documentation for technical staff.	Designs, implements, and manages infrastructure, including servers, virtualization platforms, cloud services, and complex network architectures. Develops long-range technology plans and security frameworks to ensure scalability, resilience, and compliance. Is responsible for advanced networking and systems management, leading cross-functional projects and mentoring technical staff. Troubleshoots high-impact issues and optimizes performance across multiple environments.

4. Technical Training and Reporting

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
n/a	Learns and applies basic documentation and reporting practices under close supervision. Assists with updating user guides and organizing training resources. Supports senior staff in preparing reports by gathering data and formatting content. Work is closely supervised; impact of errors is minimal and limited to delays.	Assists in creating basic training materials and user documentation for applications and systems. Conducts small group or one-on-one training sessions under supervision. Compiles simple reports on service requests, system usage, or help desk activity. Maintains logs and updates documentation as directed.	Prepares and presents technical training sessions for staff on standard applications, systems, and processes. Assists in developing user guides and help modules. Generates routine reports on system performance and service delivery metrics. Supports data analysis for compliance and operational improvements. Participates in knowledge-sharing activities within project teams. Designs and delivers technical training for systems, network security, and application platforms. Develops formal and informal courses for technical staff and end-users.	Develops and leads technical training programs for complex systems and emerging technologies. Creates comprehensive curricula, instructional materials, and performance dashboards for executive and technical audiences. Analyzes statewide trends and produces advanced reports to inform strategic decisions. Mentors staff across all ITS levels and ensure training aligns with security, compliance, and best practices. Provides consultative guidance on data-driven improvements and innovation. Creates detailed documentation and reporting tools to monitor system performance and compliance. Acts as subject matter expert for training initiatives and provides recommendations for continuous improvement.

5. IT Vendor and Purchasing Management

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
n/a	n/a	Assists in IT procurement activities for hardware, software, and IT services. Prepares purchase requests, reviews vendor quotes, and ensures compliance with established standards. Tracks delivery schedules and maintains documentation of purchases. Supports vendor performance monitoring and escalates issues as needed. Contributes to cost analysis and reporting for assigned projects.	Manages IT procurement processes for major IT projects, including drafting specifications, evaluating proposals, and coordinating vendor selection. Negotiates pricing and contract terms to ensure cost-effective solutions. Monitors vendor performance and compliance with contractual obligations. Prepares detailed reports and recommendations for leadership on purchasing decisions and vendor relationships.	Leads IT enterprise-level procurement and vendor management for complex IT solutions. Develops sourcing strategies, negotiates contracts, and ensures compliance with state and federal regulations. Oversees vendor performance, service-level agreements, and risk management for multi-million-dollar technology investments. Provides consultative guidance on cost-benefit analysis, budgeting, and lifecycle planning. Mentors staff and establishes best practices for procurement and vendor governance across agencies.

6. Project Management

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
n/a	n/a	Assists with planning and coordination of small IT projects. Prepares basic project documentation, maintains schedules, and tracks tasks. Communicates updates to team members and stakeholders. Supports project meetings by recording notes and action items. Escalates issues to senior staff as necessary. Manages moderate IT projects or components of larger initiatives under general supervision. Assists in defining project requirements and timelines. Tracks progress, prepares status reports, and escalates issues as needed. Coordinates with technical teams to ensure deliverables meet specifications. Supports testing and implementation activities.	Serves as project leader for large-scale IT initiatives. Develops detailed project schedules, assign tasks, and monitors progress. Coordinates cross-functional teams and manages stakeholder communications. Identifies risks and implements mitigation strategies. Ensures adherence to technical standards, security requirements, and organizational policies throughout the project lifecycle.	Leads IT projects with strategic impact. Defines project scope, objectives, and success criteria in alignment with organizational goals. Develops and manages complex project plans, budgets, and resource allocations. Oversees risk management, stakeholder-vendor coordination, and compliance with governance frameworks. Mentors project teams and ensures delivery of high-quality outcomes within time and cost constraints.

7. Product Management

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
Assists with organizing product documentation, logging feature requests, and maintaining simple tracking tools.	Supports product owners by documenting requirements, updating backlog items, and tracking progress. Assists with user acceptance testing and prepares basic product documentation. Communicates updates to stakeholders and escalates issues as needed. Contributes to release planning and deployment activities.	Manages smaller products or components of larger solutions under general supervision. Assists in defining product features and maintaining backlog. Participates in sprint planning and testing activities. Gathers user feedback and recommend enhancements. Prepares reports on product performance and contributes to improvement initiatives.	Leads product development for major IT solutions. Defines product requirements, maintains prioritized backlogs, and coordinates with technical teams to ensure timely delivery. Engages stakeholders to gather feedback and adjust priorities. Monitors product performance and reports outcomes to leadership. Ensures compliance with standards and security requirements.	Owns the vision, roadmap, and lifecycle of IT products with statewide impact. Defines product strategy aligned with organizational goals and business customer needs. Manages complex product portfolios, prioritizes features, and oversees delivery through cross-functional teams. Establishes performance metrics, monitors outcomes, and drives continuous improvement. Mentors staff and ensures adherence to best practices in product development and governance.

8. System Testing and Quality Assurance

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
Learns and applies basic testing principles under close supervision. Assists with simple test execution and data entry for QA reports. Shadows senior staff during defect review sessions and helps organize testing documentation. Work is closely supervised; impact of errors is minimal and limited to delays.	Assists in preparing test plans and executing basic test cases under supervision. Documents test results and reports issues to senior staff. Participates in system validation and user acceptance testing. Maintains logs and updates QA documentation as directed.	Executes functional, integration, and regression testing for moderate to complex systems. Develops test cases based on requirements and documents results. Identifies defects, assists in root cause analysis, and verifies fixes. Supports quality metrics reporting and contributes to continuous improvement initiatives.	Manages testing activities for large-scale IT projects. Develops comprehensive test plans, scripts, and automation strategies. Coordinates user acceptance testing and performance validation. Ensures adherence to and documents results for leadership review. Provides training and guidance to technical teams on QA best practices.	Leads quality assurance strategies for complex IT systems. Defines testing frameworks, automation standards, and performance benchmarks. Oversees end-to-end testing for mission-critical applications, ensuring compliance with security and regulatory requirements. Analyzes defect trends and implement process improvements across multiple teams. Mentors QA staff and provides consultative guidance on risk mitigation and quality governance.

9. Mainframe and Platform Administration

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
Learns and applies basic mainframe and platform administration tasks under close supervision. Assists with simple system checks, data entry for logs, and organizing documentation. Shadows senior staff during installations and maintenance activities. Work is closely supervised; impact of errors is minimal and limited to delays.	Assists with routine maintenance and monitoring of mainframe and platform systems. Applies patches and performs basic configuration tasks under supervision. Documents system changes and escalates complex issues to senior staff. Supports user account management and scheduled backups.	Performs system administration tasks for mainframe and platform environments under general supervision. Installs and configures operating system components and utilities. Monitors system performance and assists with troubleshooting. Supports backup and recovery processes and contributes to system upgrade planning.	Manages administration of mainframe and platform environments for large-scale applications. Configures and maintains operating systems, storage, and system utilities. Develops and enforces policies for system security, backup, and recovery. Acts as technical lead for major upgrades and migrations. Provides documentation and training for technical teams.	Provides leadership for mainframe and platform administration across statewide systems. Designs and implements strategies for system performance, capacity planning, and disaster recovery. Oversees installation, configuration, and optimization of mainframe operating systems and platform services. Ensures compliance with security and regulatory standards. Mentors technical staff and leads modernization initiatives to integrate emerging technologies.

10. Enterprise IT Security

ITS 1 – Trainee	ITS 2 – Journey	ITS 3 – Intermediate	ITS 4 – Advanced	ITS5 – Senior
n/a	Applies basic security patches and antivirus updates to desktops and servers. Monitors system logs for anomalies and escalates issues to senior staff. Assists with user account management in Active Directory, including password resets and access permissions. Supports enforcement of password policies and multi-factor authentication setup. Documents security changes and maintains compliance records. Participates in basic security awareness training and assists with onboarding security procedures.	Performs vulnerability scans and applies security patches across multiple systems. Configures and maintains endpoint protection tools and assists with firewall rule updates. Implements access controls for applications and network resources. Conducts routine security audits and prepares compliance reports. Assists with incident response activities, including log analysis and containment steps. Provides technical support for encryption tools and secure file transfer protocols. Collaborates with senior staff to improve security configurations and document procedures.	Manages security tools across complex systems such as firewalls, intrusion detection/prevention systems, and encryption technologies. Develops and enforces policies for access control, data protection, and disaster recovery. Leads security audits and vulnerability assessments; ensures compliance with regulatory standards (e.g., CJIS, HIPAA). Configures and maintains enterprise security monitoring systems and SIEM tools. Oversees implementation of multi-factor authentication and privileged access management solutions. Provides training and guidance to technical teams on security best practices and emerging threats. Acts as technical lead for security-related projects, including system hardening and network segmentation.	Designs and implements statewide security frameworks and governance models. Develops risk management strategies and compliance programs for critical systems. Oversees penetration testing, vulnerability assessments, and advanced threat detection initiatives. Directs incident response for enterprise-wide security breaches, including forensic analysis and remediation. Collaborates with executive leadership to align security initiatives with organizational goals and regulatory requirements. Leads modernization projects for enterprise security architecture, including cloud security and zero-trust models. Mentors staff across all ITS levels and provides consultative guidance on security strategy and policy development.