



STATE OF COLORADO

CLASS SERIES DESCRIPTION  
JULY 2018

INFORMATION TECHNOLOGY PROFESSIONALS

T1A1XX TO T1A4XX

**DESCRIPTION OF OCCUPATIONAL WORK**

This class series uses three levels in the Professional Services Occupational Group and describes technical and professional assignments in information technology fields. Class specifications are established to define the duties and responsibilities assigned to all levels, and are written in broad terms to support a continuum of functioning within a level.

Technical information technology work is skilled work in the practical application of specialized techniques, procedures, practices, or methods in order to accomplish tasks. The specialized work is a direct extension of a professional field which requires an understanding of that field in order to carry out the practical nature of the work. Because of the connection with a professional field, the nature of the work requires that it revert to a professional if not performed by a technician. Information technology technical work is designated within the Information Technology Technician class.

Professional information technology work is analytical and evaluative in nature. Decisions require the creative and conceptual application of theory and principles of a professional occupational field. A professional field is one in which knowledge is gained by completion of an advanced course of study resulting in a college degree or equivalent specialized experience. The information technology professional level work is designated within the Information Technology Professional, Supervisor and Manager classes.

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**INFORMATION TECHNOLOGY TECHNICIAN                      T1A1XX**

**CONCEPT OF CLASS**

This class describes the entry, fully-operational, and advanced levels of information technology technical

support. Positions in this class determine practical solutions to problems by applying specified processes, techniques, and methods. Positions carry out established work assignments under the guidance of Information Technology Professionals, work leaders and supervisors. The entry level work is initially designed to train positions for a higher level work assignment within this class. Full-operating and advanced information technology technicians operate independently in performing the full range of technical duties and problem-solving. Technical assignments will not move beyond this level.

At the fully-operational technical assignment level, positions carry out defined work procedures and processes, judgment is required on an ongoing basis to select the most appropriate technical guidelines and adapt them to accomplish tasks. Positions make decisions regularly that are within limits prescribed by the operation, choices involve selecting alternatives that affect the manner and speed with which tasks are carried out. These choices do not affect the standards or results of the operation itself because there is typically only one correct way to carry out the operation. Alternatives include independent choice of such things a priority and personal preference for organizing and processing the work, proper tools or equipment, speed, and appropriate steps in the operations to apply.

Positions study technical information to determine what it means and how it fits together in order to get practical solutions to problems and tasks. Guidelines in the form of specified processes, techniques, and methods exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation.

The direct field of influence a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. Information Technology Technician positions that supervise other information technology technical support positions are classified within this level and not in the Information Technology Supervisor level.

## **INFORMATION TECHNOLOGY PROFESSIONAL      T1A2XX**

### **CONCEPT OF CLASS**

This class describes the entry, fully-operational, and advanced professional levels of the information technology occupation. Positions operate independently performing the full range of professional information technology tasks and specialties. Work requires the use of discretion and creativity within limits of theory and principles of the profession; management's program objectives; law and regulations; and, general systems and guidelines. Judgment is used in the adaptation and skilled application of guidelines to solve a full range of problems related to the assignment. An employee in this class must anticipate and analyze the impact and consequences of decisions made. Positions may serve as a resource to others or a specialist in the professional field. Professional assignments without supervisory or managerial

responsibilities will not move beyond this level.

At the entry level, positions carry out defined work procedures and processes, judgment is required on an ongoing basis to select the most appropriate technical guidelines and adapt them to accomplish tasks. Entry level professional positions perform tasks that are structured and designed to provide training and experience. Tasks are performed under direct supervision and detailed instruction and guidance is received. Entry professionals learn to apply theories and principles of the professional information technology field.

Fully-operational level positions regularly make decisions that are within limits set by professional standards, the agency's available technology and resources, and program objectives and regulations established by a higher management level, choices involve determining the process, including designing the set of operations. The general pattern, program, or system exists but must be individualized. This individualization requires analysis of data that is complicated. Analysis is breaking the problem or case into parts, examining these parts, and reaching conclusions that result in work processes. This examination requires the application of known and established theory, principles, conceptual models, professional standards, and precedents in order to determine their relationship to the problem. New processes or objectives require approval of higher management or the agency with authority and accountability for the program or system.

Positions evaluate the relevance and importance of information technology theories, concepts, and principles in order to tailor them to develop a different approach or plan to fit specific circumstances. While general policy, precedent, or non-specific practices exist, they are inadequate and are therefore relevant only through approximation or analogy. In conjunction with theories, concepts, and principles, positions use judgment and resourcefulness in tailoring the existing guidelines so they can be applied to particular circumstances and to deal with emergencies.

The direct field of influence a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team, and includes work leader, project leader, project management, and advanced or specialized assignments.

**Specialty areas:** The following information technology professional specialties are determined by established department guidelines.

Work leaders exercise some control over the continual work product of at least two other full-time employees in the same or similar class, such as assigning tasks, monitoring progress and work flow, checking the product or work, scheduling work and establishing work standards.

Project leaders have some control over the continual work product of others, but it is conducted on an

ongoing project basis where they assist in the development of project scope and objectives, creating work plans, schedules, project estimates, resource plans, and status reports, for projects that are critical to the agency's mission and fundamental business operations. Project leaders function much as "leaders-in-charge" of small to medium size projects of significant magnitude in terms of complexity, cost, time-constraints, staffing, and equipment. Project leaders provide direction to a project team including assignment of individual responsibilities, tasks and technical functions. Project leader differs from work leader in that the group of employees led may change or revolve. Work leaders provide ongoing leadership for a set group of employees.

*Project managers* typically supervise all project staff, and define the information technology project scope and objectives; are responsible for all aspects of the development and implementation of assigned information technology projects (\$5 million plus) and provide a single point of contact for projects. Develops detailed project work plans, monitors project work assignments and deadlines, and ensures consistent communication, and organization between interdisciplinary project teams and departments. Interfaces with all areas affected by the project including end users, computer services, and client services. Continually evaluates the project to ensure intended goals and deliverables are being met, and creates status reports. Project manager positions must be certified by the Project Management Institute (PMI) or have comparable education and experience.

## **INFORMATION TECHNOLOGY SUPERVISOR                      T1A3XX**

### **CONCEPT OF CLASS**

This class describes the full range of information technology unit supervisor assignments. Positions manage the daily operation of all information technology activities or a specific functional area or work unit; and determine the annual business plans that integrate with the agency's mission and goals, determine implementation policies and guidelines, develop budgets, establish staffing and directly control the work of others. Work involves directing the implementation of policies, rules, and regulations.

Positions set limits of the strategic master plan and allocated human and fiscal resources, choices involve determining tactical plans to achieve the objectives established by the highest management level, that involves establishing what processes will be done, developing the budget, and developing the staffing patterns and work units in order to deploy staff. This level includes inventing and changing systems and guidelines that will be applied by others. By nature, this level is not bound by processes and operations in their own programs as a framework for decision making and there are novel or unique situations which cause uncertainties that must be addressed at this level. Through deliberate analysis and experience with these unique situations, the supervisor determines the systems, guidelines, and programs for the future.

Positions develop guidelines to implement a program that maintains the agency's mission. Guidelines do not

exist for most situations. In directive situations, positions use judgment and resourcefulness to interpret circumstances in a variety of situations and establish guidelines that direct how a departmental/agency program will be implemented.

The unit supervisor is accountable, including signature authority, for actions and decisions that directly impact pay, status, and tenure of at least three full-time equivalent positions. At least one of the subordinate positions must be in the Information Technology Professional class or at a comparable conceptual level in another professional class series. The elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, signing performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend hire, promotion, or transfer. Some positions may function as second-level supervisors depending on the size of the unit or section.

## **INFORMATION TECHNOLOGY MANAGER**

**T1A4XX**

### **CONCEPT OF CLASS**

This class describes the Information Technology Manager that is the second or third-level program supervisor. Positions manage the daily operations of all information technology activities or specific functional areas or multiple work units. Positions determine the annual business plans that integrate with the agency's mission and goals, determine implementation policies and guidelines, develop budgets, establish staffing and control the work of others through formal supervision of subordinate unit supervisors. Work involves directing the implementation of policies, rules, and regulations.

Positions set limits by organizational policy, general directives, overall goals and objectives, and allocated resources, choices involve formulating or adjusting programs, specifying program objectives, and allocating human and fiscal resources among constituent programs. This involves independently, and under conditions of uncertainty, determining what has been done, what can be done, proposals for long-term policy, and estimates of what new resources are required. The long-term strategic plans, purposes, and staffing determined by this level require integration with other programs in the overall plan. Program, as used here, is defined by the mission of an agency or division as opposed to a segment or piece of a program, such as planning, program evaluation, etc.

Positions develop guidelines to implement a program that maintains the agency's mission. Guidelines do not exist for most situations. In directive situations, positions use judgment and resourcefulness to interpret circumstances in a variety of situations and establish guidelines that direct how a departmental/agency program will be implemented.

The manager must be accountable for multiple units through the direct supervision of at least two

subordinate Information Technology Supervisors; the third-level supervisor is accountable for multiple units through the direct supervision of at least two subordinate second-level supervisors or Information Technology Managers; and, have signature authority for actions and decisions that directly impact pay, status, and tenure. Elements of formal management must include providing documentation to support recommended corrective and disciplinary actions, second-level signature on performance plans and appraisals, and resolving grievances. Positions at least start the hiring process, interview applicants, and recommend hire, promotion, or transfer.

## **ENTRANCE REQUIREMENTS**

Minimum entry requirements and general competencies for classes in this series are contained in the State of Colorado Department of Personnel and Administration web site.

For purposes of the Americans with Disabilities Act, the essential functions of specific positions are identified in the position description questionnaires and job analyses.

## **CLASS SERIES HISTORY**

Effective 7/1/18: Update the Class Code of T1A1TX to T1A4XX per administrative updates.

Updated and removed the purpose of contact 6.30.2015

Effective 7/1/13 (KJE). Consolidate Applications Programmer Intern (H2A1IX), Information Technology Technician I (H2I1), and Information Technology Technician II (H2I2) into the IT Technician (H2A1XX). Consolidate Applications Programmer I (H2A2TX), Applications Programmer II (H2A3XX), Applications Programmer III (H2A4XX), Information Technology Professional I (H2I3), Information Technology Professional II (H2I4), and Information Technology Professional III (H2I5) into the IT Professional (H2A2XX). Consolidate Information Technology Professional IV (H2I6) and Information Technology V (H2I7) into the IT Supervisor (H2A3XX). Consolidate Programming Manager (H2A6XX), Information Technology Professional VI (H2I8), and Information Technology Professional VII (H2I9) into the IT Manager (H2A4XX). Published proposed 6/4/12.

Effective 7/1/99 (KKF). PS consolidation study consolidated Operating System Programmer/Analyst I - IV. Published draft 2/17/98 and proposed 3/20/98.

Effective 9/1/98 (CVC). PS consolidation study consolidated Database Analyst/Administrator (H2C), Data Processing Manager (H2D), Operating Systems Manager (H2F5), Network Services (H2E), Programmer/Analyst (H2G), and Scientific Programmer/Analyst (H2H). Published draft 2/17/98 and proposed 3/20/98.

Revised 8/1/94 (CVC). Revised Network Services to include the Network Technician (H2E2TX).

Revised 5/1/94 (CVC). Adjustment to Operating Systems Programmer/Analyst (H2F) and Programmer/Analyst (H2G) class descriptions as result of system appeal decision.

Effective 9/1/93 (CVC). Job Evaluation System Redesign Project. Created Database Analyst/Administrator (H2C). Revised Data Processing Manager (H2D), Network Services (H2E),

Operating Systems Programmer/Analyst (H2F), Programmer/Analyst (H2G), Published as proposed 6/1/93. Revised 1/1/92. Change in occupational group for Data Processing Manager I-III (A2795 - A2797), Software Programming Manager (A2791), Systems Analysis Manager (A2792).  
 Revised 01/01/81. Change in promotion statement for Senior and Principle Systems Analyst (A2782 - A2783).  
 Revised 7/1/79. Changed entrance requirements for Data Processing Manager I - III (A2795 - A2797). Changed minimum qualifications and class concepts for Software Programmer A - B (A2760 - A2761); minimum qualifications for Senior and Principle Software Programmers (A2762 - A2763), distinguishing features and minimum qualifications for Software Programming Manager (A2791). Addition of options, change nature of work, some examples of work, knowledge, skills and abilities, minimum qualifications for Systems Analyst A, B, Senior and Principle Systems Analyst (A2780 - A2783), distinguishing features and minimum qualifications for Systems Analysis Manager (A2792). Changed distinguishing features and minimum qualifications for Scientific Programmer A, B and Senior (A2770 - A2772).  
 Created 1/1/75. Data Processing Manager I-III (A2795 - A2797); Software Programmer A, B, Senior, Principle, and Manager (A2760 - A2763 and A2791); Systems Analyst A, B, Senior, Principle and System Analysis Manager (A2780 - A2783 and A2792); and Scientific Programmer A, B and Senior (A2770 - A2772).

SUMMARY OF FACTOR RATINGS

<b>Class Level</b>	<b>Decision Making</b>	<b>Complexity</b>	<b>Line/Staff Authority</b>
IT Technician	Defined	Patterned	Indv. Contributor
IT Professional	Process	Formulative	Indv. Contributor; Including specialty areas: Work Leader, Project Leader, Project Manager
IT Supervisor	Interpretive	Strategic	Unit Supervisor
IT Manager	Programmatic	Strategic	Manager

ISSUING AUTHORITY: Colorado Department of Personnel & Administration