

ILLINOIS DEPARTMENT OF CENTRAL MANAGEMENT SERVICES
CLASS SPECIFICATION

DATA PROCESSING OPERATIONS SERIES

| <u>CLASS TITLE</u> | <u>POSITION CODE</u> | <u>EFFECTIVE</u> |
|---|----------------------|------------------|
| DATA PROCESSING OPERATOR | 11425 | 4-16-89 |
| DATA PROCESSING ASSISTANT | 11420 | 4-16-89 |
| DATA PROCESSING TECHNICIAN | 11440 | 4-1-90 |
| DATA PROCESSING SPECIALIST | 11430 | 4-1-90 |
| DATA PROCESSING ADMINISTRATIVE SPECIALIST | 11415 | 4-1-90 |

SERIES DISCUSSION:

This series is designed for nonprofessional or technical positions located in an agency's information systems program. The series is designed to advance career progression opportunities by limiting inclusion to those positions primarily engaged in information system operation and control procedures as part of a centralized program and by establishing a career path for those employees who acquire greater responsibility and skill in controlling the various phases of information processing production. Specifically excluded from this series are those positions engaged in information processing activities such as entry of client information, minicomputer operations, and other computerized information processing activities that are not organizationally located in an agency's information system program.

The Data Processing Operations series encompasses a range of jobs including data entry operators, data entry production controllers, computer system operators, computer system network monitors, computer system production controllers, and host system or microcomputer systems technical coordinators. The series includes positions engaged in controlling (through actual machine operation or production control procedures) the computer processing of information as a member of a centralized computer system program. The Data Processing Operator and Assistant classes encompass positions engaged in lower level functions, such as data entry, support machine operations and other functions not requiring a technical knowledge of system control procedures. The Data Processing Technician, Specialist, and Administrative Specialist classes encompass positions requiring skill in performing system operation control procedures where a working knowledge of the processes involved and command languages used to control the processing of information is applied.

DEFINITION OF TERMS:

Data Processing Operations positions engage in the operation of and/or production control related to a variety of specialized equipment. At the higher levels of the series, knowledge of system control languages and terminology is necessary. The following definitions of series terms are provided to assist in understanding position duties and responsibilities characteristic of this series.

Data Entry Terminals - Includes key punch machines, cathode ray terminal (CRT) and other entry stations in which a keyboard is operated to enter data from original source information for processing by computer.

SERIES DISCUSSION (Continued):

Stand Alone System - An information processing system capable of receiving and processing information (typically stored on tape, disk or punched cards) independent of other devices, programs, or systems. However, such systems may operate on line with a central processor unit used to support the entry of information to be processed (tape or disk system) and retrieval (printers). Stand alone systems include data entry and optical scanner systems, accounting, printer, tape drive, and tape library systems. The operation of a stand alone system requires knowledge of command statements which control and direct the systems processing of information, and system response or condition statements which the operator must act upon (e.g., enter further commands, correct commands) to assure proper processing and outputs. The operator is responsible for following the proper sequence of steps involved in executing a job and monitoring and correcting production errors. Data entry systems include key to disk, disk to tape and other data pooling system equipment utilized to transfer data which has been keyed (entered) onto a tape or disk for processing by a computer system. Also included is the central unit to which data entry terminals are connected and which control and pool terminal entries. An optical character recognition system (Optical Scanner) is a system which reads (utilizing a light source) original document information, transfers the information to computer readable information and subsequently stores such information on tape or disk. Accounting systems process accounting information (entered directly or from tape stored information) and produce reports and/or updated account files. Tape systems (including tape library) feed information stored on tape into the processor unit, or retrieve and hold on tape the product of information processed. Printer systems process information stored on disk or tape and produce printed reports, forms and other documents.

Central Processing Units - Includes mainframes, host processors, remote job entry stations, transaction processors and other central processing systems which are programmed to receive data, process the data according to the program's direction and subsequently produce an output (e.g., update records, reports to be printed or placed on tape). In remote job entry systems, programs and data are entered on the system, the system processes and routes this information to a larger processor which performs the actual data manipulation. The resulting product is routed back to the entry station which processes the information for subsequent placement on tape or printer. Skill is required by the operator in entering the correct sequence of commands to initiate job runs, monitor the run and correct processing errors. A working level knowledge of command statements (including Job Control Language) is necessary to control the entry and processing of information, and to correct faulty command statements in the event of production errors.

Job Control Language (JCL) - In addition to program instructions, the computer processing of data requires a set of master instructions which direct the central processing unit regarding program language, which tape drives to use for receiving data, which tape drive or printer is to receive the job product, the time of day and processing system the job should be executed on, and the specific data set to be manipulated in completing the job. JCL is actually a series of statements (punched on cards or directly entered on a terminal linked to the processor), each statement containing particular processing commands. Data Processing Technicians require a working knowledge of the utilization of such statements to assure the proper submission, processing and production of jobs by the computer.

DATA PROCESSING OPERATOR

POSITION CODE: 11425

DISTINGUISHING FEATURES OF WORK:

Under immediate supervision, as a member of the agency's information system program, performs clerical work that is routine in nature and requires minimal decision making authority; serves as a data entry operator when work involves limited variables and noncomplex codes; or, supports computer operations and production by operating simple peripheral equipment.

ILLUSTRATIVE EXAMPLES OF WORK:

1. As a data entry operator, keys alphanumeric data from precoded documents; codes document information using clearly defined coding schemes; enters commands to bring up menus and forms on the terminal screen; verifies entries by re-entering previously entered information and correcting errors.
2. Performs elementary computer operations support functions which may require the operator to enter routine machine commands; operates collators, bursters, drills and similar support equipment; loads and unloads printers; retrieves tapes and mounts on tape drives, operates tape cleaners, returns tapes to storage, completes logs of tapes dispensed or returned.
3. Logs assigned work orders in and out; prepares production logs or reports for assignments completed.
4. Performs routine equipment maintenance, such as cleaning tape drives and printers, replacing ribbon cartridges, and adding ink or toners for printers or copiers.
5. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to completion of four years' high school.

Knowledges, Skills, and Abilities

Requires elementary knowledge of general office procedures.

May require skill in the rapid and accurate keying (typing) of document information.

Requires ability to follow oral and written instructions.

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DATA PROCESSING ASSISTANT

POSITION CODE: 11420

DISTINGUISHING FEATURES OF WORK:

Under direct supervision, as a member of the agency's information processing program, performs clerical work that is controlled by established methods and procedures but requires some judgment in preliminary assembly, editorial efforts, some choice in procedures and independent action in the disposition of routine matters; carries out difficult data entry duties that require interpreting data and correcting or entering appropriate codes or summaries of information to be keyed; or, balances input/output records and reports; assures correctness of work produced; may serve as a designated lead worker of Data Processing Operators and Assistants.

ILLUSTRATIVE EXAMPLES OF WORK:

1. As a data entry operator, keys alphanumeric data from a wide variety of sources; deciphers written response statements and determines proper code; reviews submissions or printouts, discovers errors and enters correct code; receives and reviews documents rejected by optical scanning operations, determines and enters corrected codes; enters keyboard commands to call up a wide variety of menus, programs and screens.
2. As a production controller, performs a variety of information processing control procedures not requiring technical knowledge of system processing procedures; records and maintains job order/work completion logs; reviews print outs of jobs completed and corrects to indicate actual production output; reviews work orders, production, equipment utilization and other information logs and compiles and prepares overall production reports, including necessary charts and graphs.
3. Serves as a lead worker to Data Processing Operators and/or Data Processing Assistants; provides guidance and direction to operators; assigns and reviews work, ensuring methods and procedures are maintained; provides input to the supervisor concerning performance of assigned staff.
4. Completes job assignment logs, records and reports; records name for assigned job orders and indicates completion time; prepares production reports of assignments completed; completes supply request forms.
5. Performs routine maintenance procedures, such as cleaning printers and keyboards and replenishing ink, ribbon and/or toner.
6. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to completion of high school supplemented by one year's previous related experience such as is typically gained at the Data Processing Operator level.

DATA PROCESSING ASSISTANT (Continued)

Knowledges, Skills, and Abilities

Requires working knowledge of basic mathematics.

Requires working knowledge of data processing operation procedures.

May require working knowledge of coding schemes utilized for entering information on a data entry terminal.

May require working knowledge of procedures to control the processing of documents and reports for a computer processing system.

May require skill in the rapid and accurate keying of information.

Requires ability to compile information and prepare logs and reports.

DATA PROCESSING TECHNICIAN

POSITION CODE: 11440

DISTINGUISHING FEATURES OF WORK:

Under general supervision, as a member of the agency's information processing program, performs journey level information system operation control work; controls and operates mainframes, hosts, processors, remote job entry, data entry pooling and other stand alone systems; or, performs difficult production control procedures, preparing job streams and monitoring outputs.

ILLUSTRATIVE EXAMPLES OF WORK:

1. As a stand alone system operator, controls and monitors the operation of key to disk, optical scanner, tape drive, printer, library tape and similar information processor support or data pooling systems; enters commands to initiate job run, mounts tapes and/or loads paper; monitors system consoles, assuring proper run; responds to indicators and modifies commands to correct run errors and assure accurate outputs; edits printouts and makes necessary corrections or routes to originator for correction; may assign batch identification numbers, coordinate batch assignments to data entry staff and prepare entry operation reports.
2. As a computer system operator, controls the operation of remote job entry, mainframes, or host processors; reviews job orders/schedules and program documentation; enters commands on console to submit job runs; monitors console and alters commands to assure proper job run; edits print outs to assure information was processed as expected; modifies job control directives for particular job run or to correct run errors.
3. As a network controller monitors and controls the remote entry network; monitors console indicators, brings specific lines up or down; advises field users of commands necessary to correct problems or resolves by entering commands on central system; contacts communication companies by phone and advises them of communication line problems.
4. As production controller, performs system control functions; reviews master schedule and prepares job streams; retrieves and prepares job control statements, modifying in accordance with documentation and specific job run instructions; submits schedule, job streams, related tapes and/or disks to operations unit; edits printouts to assure information was processed as expected; corrects job control and other application command statements to correct run errors; notifies programmers regarding run errors.
5. Maintains system equipment by cleaning tape drives, consoles and printers; changes ribbons and printer wheels, adds toner to printers; assures proper temperature and humidity settings; performs other maintenance functions as directed.
6. Completes and maintains job assignment production logs and reports.
7. Assists with the more difficult system functions, coordinating system operations, assisting with job run schedules and output diagnostics.

DATA PROCESSING TECHNICIAN (Continued)

8. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to completion of high school, supplemented by one year of related data processing experience.

Qualifying state employees in the employee Upward Mobility Program, may complete combinations of specific proficiency tests and training programs leading to a certificate of proficiency in lieu of the stated requirements for this classification.

Knowledges, Skills and Abilities

Requires working knowledge of information processing system operation principles.

Requires working knowledge of job submission, operation monitoring and production procedures.

Requires working knowledge of high school mathematics.

Requires working knowledge of production control procedures.

May require working knowledge of job control language set up and modification.

Requires ability to follow complex oral and written instructions.

Requires ability to monitor consoles and enter keyboard commands rapidly and accurately.

Requires ability to identify system errors and correct accordingly.

Requires ability to compile and maintain necessary logs and reports.

DATA PROCESSING SPECIALIST

POSITION CODE: 11430

DISTINGUISHING FEATURES OF WORK:

Under general supervision, as a member of the agency's information processing program, performs advanced information system operation control work; serves as a designated shift coordinator or lead worker to lower level Data Processing Technicians; or, performs advanced technical data processing work involving complex variables and requiring extensive knowledge of the language and processes involved.

ILLUSTRATIVE EXAMPLES OF WORK:

1. Serves as a designated lead worker to a staff of Data Processing Technicians, Assistants and Operators engaged in computer operations activities for an agency's small to moderate data processing program or a portion (e.g., network system support, on-line library system, a component of multiple mainframe/host operations) of an agency's large, complex data processing operation; exercises limited supervisory responsibility; assigns, reviews and controls work assignments; provides guidance and assistance to staff; advises supervisor concerning employee work performance; troubleshoots system operation problems; maintains necessary production control logs and records.
2. As a shift coordinator for a small information processing program, performs the full range of computer processing system operation functions; reviews master schedule, establishes job run order and sets up program controls according to documentation and programmer instructions; performs complex output edits and corrects control languages and processor commands as necessary; restores data bases, resubmits jobs which have not processed accurately (e.g., abends, aborts); coordinates the bringing up or down of various system components; advises programmers of production run problems and potential solutions; coordinates activities and provides advice and assistance to other operations staff.
3. Performs advanced production control and job analysis functions; assists with developing the master production schedule; reviews complex programmer instructions, modifies and sets up job control language and job stream directives; modifies or establishes documentation for new production runs, performs complex output edits and corrects job control language parameters as needed; advises programmers of production run procedures and potential corrections to production run errors.
4. Specializes in minicomputer or microcomputer system applications; loads software packages following proper command procedures; develops special applications for programs such as Lotus 1-2-3 or DataEase where an extensive understanding of the applications programs or procedural command language is required; develops records, forms, and reports; tests applications for accuracy and reliability; reviews reports of evolving or new application programs, recommends purchase, and tests programs; coordinates data transmission between mainframe and microcomputers.

DATA PROCESSING SPECIALIST (Continued)

5. Discusses needs, time frames and expected outcomes with requester; notifies programmers, end users, or others in instances of job production errors; recommends potential solutions; routes finished products as requested.
6. Maintains production, maintenance and error reports as required; completes supply order requests and routes.
7. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to completion of high school supplemented by three years of previous related experience such as is typically gained at the Data Processing Technician level; or, two years of college including coursework in the data processing field supplemented by two years of related experience.

Qualifying state employees in the employee Upward Mobility Program, may complete combinations of specific proficiency tests and training programs leading to a certificate of proficiency in lieu of the stated requirements for this classification.

Knowledges, Skills and Abilities

Requires working knowledge of information processing system operation principles.

Requires working knowledge of high school mathematics.

Requires extensive knowledge of production control procedures.

Requires extensive knowledge of report compiling and completion procedures.

May require extensive knowledge of job control language set up and corrections.

May require extensive knowledge of job submission, operation monitoring and computer production procedures.

Requires skill in monitoring consoles and entering keyboard commands rapidly and accurately.

Requires ability to follow complex oral and written instructions.

Requires ability to write directives or instructions in a complete and concise manner.

Requires ability to identify system or production errors and correct accordingly.

Requires ability to compile and maintain necessary logs and reports.

Requires ability to provide leadership, guidance, instruction and training to lower level staff.

DATA PROCESSING ADMINISTRATIVE SPECIALIST

POSITION CODE: 11415

DISTINGUISHING FEATURES OF WORK:

Under direction, as a member of the agency's information processing program, directs and coordinates a large multiple component information system, requiring a high level of skill and a thorough knowledge of the processes involved necessary for coordinating and controlling overall system production; performs coordinative functions for a large, complex information processing system operation program; serves as a lead worker to a staff of Technicians and Specialists performing complex computer system operation and/or production control, scheduling, and job analyst work; or, coordinates mainframe and micro systems.

ILLUSTRATIVE EXAMPLES OF WORK:

1. As a shift coordinator of computer operations, coordinates a complex, multiple system computer operation such as is found in the Departments of Revenue, Public Aid, State Police, or Central Management Services; serves as a designated lead worker to a moderate sized staff of Data Processing Technicians and Specialists; exercises limited supervisory responsibility; assigns, reviews and controls work assignments, advises supervisor concerning employee work performance; coordinates the bringing up and down of systems; solves complex production run errors; establishes job run order and reruns based on master schedule; provides training and assistance to lower level staff.
2. As shift coordinator of production control, establishes the master production schedule and serves as a designated lead worker and senior controller to a staff of Data Processing Technicians and Specialists engaged in production control, scheduling, and job analysis activities; exercises limited supervisory responsibility; assigns, reviews and controls work assignments; provides guidance and assistance to staff; advises supervisor concerning employee work performance; assists programmers in establishing new run procedures including job control language, job streams and documentation; approves, in accordance with policies and procedures, new production runs onto system; analyzes condition codes of complex abends and makes corrections; directs the erasing of job runs from the system for those jobs which have balanced and been distributed.
3. Serves as a technical specialist and coordinator in the application and use of minicomputers or microcomputers; coordinates data transmission between the mainframe and microcomputers, advising users of the most appropriate software package or mainframe option for a particular application; instructs and provides hands-on training to users regarding procedures to be followed in developing and utilizing software packages, performing backup and error recovery procedures; provides technical expertise to users performing complex back-up or recovery procedures.
4. Compiles information from a variety of sources and prepares overall production reports; compiles reports and makes recommendation regarding equipment utilization, down time and procedural changes.

DATA PROCESSING ADMINISTRATIVE SPECIALIST (Continued)

5. Maintains supply and equipment records; orders supplies as needed; recommends the replacement or addition of equipment for improved operations efficiency.
6. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to the completion of high school supplemented by four years of previous related experience such as is typically gained at the Data Processing Specialist level; or, two years of college coursework supplemented by three years of previous related experience.

Qualifying state employees in the employee Upward Mobility Program, may complete combinations of specific proficiency tests and training programs leading to a certificate of proficiency in lieu of the stated requirements for this classification.

Knowledges, Skills and Abilities

Requires working knowledge of high school mathematics.

Requires an extensive knowledge of information processing system operation principles.

Requires thorough knowledge of production control procedures.

Requires thorough knowledge of report compiling and completion procedures.

May require thorough knowledge of job control language set up and correction.

May require thorough knowledge of information system job submission, operation monitoring and computer production procedures.

Requires ability to follow complex written and oral instructions.

Requires ability to coordinate multiple components of a complex information processor system.

Requires ability to write directives or instructions in a complete and concise manner.

Requires ability to compile and maintain complex logs and reports.

Requires ability to provide leadership, guidance, instruction and training to lower level staff.