

**COMPETENCY MODEL FOR  
CONTROL SYSTEMS ENGINEER  
CLASS CODE 7243**

The following competencies have been identified as those that best separate superior from satisfactory job performance in the class of **CONTROL SYSTEMS ENGINEER**. (Numbers refers to the order of competencies in the Competency Bank.)

- 3. Judgment and Decision Making
- 4. Analytical Ability
- 20. Job Knowledge
- 28. Supervision
- 33. Interpersonal Skills
- 35. Teamwork
- 45. Oral Communication
- 47. Written Communication

On the following pages are descriptions of each competency, including a definition, the level of the competency required for the class (*italicized*, **bolded**, and underlined), examples of behavioral indicators, and satisfactory and superior performance levels.

**3. JUDGMENT AND DECISION MAKING** – Accurately assesses situations, seeks new information if necessary, and applies all available information to reach sound conclusions/formulate effective response.

Level of Competency Required by Job:

Level 1: Training and guidelines needed to respond to immediate situations within very specific function are provided (or supervisor available to assist).

**Level 2: General information and guidance to assist in responding to a variety of situations across a range of circumstances are provided.**

Level 3: Little guidance available for responding to a wide range of complex situations with far-reaching and/or enduring consequences.

Examples of Behavioral Indicators:

- Effectively responds to atypical situations.
- Asks questions or otherwise obtains additional relevant information to make a decision.
- Formulates a decision and necessary actions based on available facts.
- Correctly infers appropriate response based on information provided and existing policies, personal experience, and/or consultation with others.
- Discusses conclusions/possible responses with others before taking action as necessary.
- Considers impact of decisions on all affected parties.

Performance Levels:

Satisfactory

Correctly assesses routine and unusual situations and reaches appropriate conclusions for actions needed. Obtains additional information and/or consults with others as necessary.

Superior

Evaluates new situations accurately to establish an appropriate response or plan of action. Recognizes the impact on all affected parties, as well as the possible ramifications and/or repercussions of setting a precedent.

**4. ANALYTICAL ABILITY** – Identifies, obtains, and evaluates relevant information to establish relationships or patterns, cite causes, and reach logical conclusions.

Level of Competency Required by Job:

Level 1: Recognize similarities/differences in current situation to those previously encountered and is guided accordingly. Apply existing policies correctly. Ask pertinent questions or otherwise seek additional information to formulate appropriate response.

**Level 2: Consider multiple, varied factors when evaluating a situation or issue. Seek additional information to provide further insight. Reach conclusions that logically follow from the information obtained.**

Level 3: Consider a multitude of diverse factors, their interrelationships, the perspectives of others, alternative courses of action and their likely ramifications when evaluating information to reach a conclusion.

Examples of Behavioral Indicators:

- Obtains the necessary amount of relevant information.
- Recognizes the impact of each type of information on conclusions.
- Evaluates the quality/source of information when considering it.
- States the shortcomings of the information and, therefore, the analysis.

Performance Levels:

Satisfactory

Recognizes available relevant information, seeks additional information to consider, and reaches a conclusion. Provides sound, convincing justification for conclusions, citing relevant data and facts.

Superior

Uses a great deal of existing and obtained information and data to develop and evaluate alternatives and arrive at a final conclusion. Provides compelling arguments in support of conclusions.

**20. JOB KNOWLEDGE** – Knows information required to perform a specific job. Includes both widely available courses of study (for example, chemistry, human resources management, graphic arts) and City-specific information (parking regulation and ticketing practices; purchasing procedures; provisions of the City Charter).

Level of Competency Required by Job:

**Level 1: Knowledge is concrete, factual, and/or procedural and may be defined by the organization. Situations in which it is applied are quite consistent.**

Level 2: Knowledge is substantive and may be defined by an external trade, field, or profession. Situations in which it is applied vary and, as such, require breadth and depth of understanding.

Level 3: Knowledge is abstract, conceptual, and/or complex and may be supported by a well-defined academic discipline or authoritative sources (e.g., laws, ordinances, government guidelines/regulations/ codes). Situations in which it is applied may vary greatly or be novel.

Examples of Behavioral Indicators:

- Performs work correctly/avoids technical (job content related) errors.
- Answers technical questions about work accurately.
- Asks few technical questions about the performance of routine work activities.
- Offers advice (“coaching”) to new employees regarding their work.
- Develops training programs for other employees.
- Sought out as a source of information by others.

Performance Levels:

Satisfactory

Sufficient job knowledge to perform work correctly independently. Answers technical questions about work correctly.

Superior

Expertise in technical job information sufficient to serve as a resource to others. May develop training manuals/ programs and/or give internal and/or external presentations related to work.

## Job Knowledge Areas

1. Knowledge of control systems and instrumentation theory, and the application of instrumentation and control systems methods and equipment such as feedback control theory and Proportional Integral Derivative (PID) sufficient to direct construction and investigation activities on a variety of control system instrumentation and processes and evaluate their effectiveness.
2. Knowledge of the fundamentals of mechanical, electrical, and process engineering including the methods used to interpret piping and instrumentation diagrams (P & ID) for wastewater treatment process equipment and functions, and electronic and digital pneumatic circuit design sufficient to appropriately direct the design of control systems in alignment with mechanical, electrical, and process engineering fundamentals.
3. Knowledge of methods, materials, equipment, and tools used in the installation, testing, and calibration of instrumentation and control facilities such as flow meters and automated devices sufficient to direct the design of control systems, determine operational criteria, select the appropriate equipment required to complete a job, and correctly set-up and direct pilot and plant scale experiments on control systems and instrumentation equipment.
4. Knowledge of technological developments, software, platforms, equipment, and sources of information in the field of Control Systems Engineering such as data communication techniques, AutoCAD, SharePoint, digital computers, process control software design, computer and peripheral equipment, and their application sufficient to correctly interpret and apply data and information to economic and technical evaluations of proposed and current control systems and instrumentation equipment.
5. Knowledge of Federal, State, and local laws, regulations, and codes related to instrumentation work including the Environmental Protection Agency code and National Electrical Code (NEC) sufficient to present data and justify provisions and requirements in compliance with applicable laws, regulations, and codes.

**28. SUPERVISION** – Ability to assume direct responsibility for all aspects of the performance of a work group, which requires knowledge and/or ability in the areas of:

- Planning and goal setting
- Creating a safe and positive work environment
- Establishing standards and training employees
- Motivating employees and teambuilding
- Performance Management (assigning, monitoring, facilitating, reviewing and evaluating work, and providing feedback)
- Supporting and developing employees through delegation and participation
- Taking disciplinary action including progressive discipline
- Provisions of employees' MOU's and handling grievances
- Legal requirements including EEO, ADA, FLSA, FMLA, and Workers' Compensation provisions
- Civil Service Commission Rules and Policies related to the management of employees
- Administrative Code provisions related to the management of employees
- Budget processes sufficient to request and justify expenditures in a correct and timely manner

Level of Competency Required by Job:

- Level 1: Supervises small workgroup of employees performing the same or highly related work.**
- Level 2: Supervises a larger workgroup of employees performing various types of work.
- Level 3: Supervises employees including provision of coaching and advice to subordinate supervisors.

Examples of Behavioral Indicators:

- Plans, assigns, and monitors work progress.
- Trains employees to do work.
- Evaluates work and gives positive and negative feedback.
- Displays knowledge of legal requirements including applicable Federal and State laws, Administrative Code provisions, Civil Service Commission Rules and Policies, and MOU provisions.

Performance Levels:

Satisfactory

Proficiency in supervision sufficient to supervise a workgroup in terms of task orientation, interpersonal concerns, and personnel administration.

represent department position in a public forum.

Superior

Proficiency in supervision sufficient to serve as a resource to others and/or

### 33. INTERPERSONAL SKILLS – Interacts effectively and courteously with others.

#### Level of Competency Required by Job:

Level 1: Interact with members of the workgroup, supervision, and/or the public in a cordial, service-oriented manner.

**Level 2: Interact across department lines and with appointed City officials, and/or members of the public, at times under adversarial circumstances, in a cordial, respectful manner.**

Level 3: Interact with appointed and elected City officials, department heads, representatives of external organizations, and/or the media in a cordial, effective manner.

#### Examples of Behavioral Indicators:

- Works well with others toward mutual objectives.
- Does not arouse hostility in others.
- “Disagrees without being disagreeable.”
- Elicits acceptance/cooperation from others.
- Affords all individuals respect, regardless of their role or status.
- Effectively addresses concerns of politicians or others who may have their “own agenda.”

#### Performance Levels:

##### Satisfactory

Behaves in a courteous, respectful, cooperative manner toward co-workers, other City employees, and members of the public.

##### Superior

Facilitates positive interpersonal relations within/among workgroups and toward members of the public. Adept at finding similarities and grounds for cooperation/mutual benefit.

**35. TEAMWORK** – Interacts effectively with others to achieve mutual objectives; readily offers assistance to others to facilitate their goal accomplishment.

Level of Competency Required by Job:

**Level 1:**     **Work effectively as a member of a work unit or project team. Readily offer assistance to others when they have too much work or have too little.**

Level 2:       Work effectively as a team member in which different people have different roles/responsibilities and perspectives. Identify points for collaboration with co-workers; readily offer and request assistance.

Level 3:       Work effectively as a part of an interdependent team (your work gets done only if the work of the whole team is done; evaluation of team performance is more relevant than individual performance).

Examples of Behavioral Indicators:

- Discusses work-related matters with co-workers.
- Offers and requests assistance readily.
- Offers and is receptive to suggestions.
- Identifies problems with workflow that will prevent team from accomplishing its goals.
- Provides constructive criticism and feedback to team members to improve overall functioning of team.
- Assigns credit to team for accomplishments.

Performance Levels:

Satisfactory

Cooperates with co-workers and fulfills responsibilities as a member of a project team. Maintains a focus on common objectives and offers and requests assistance readily.

Superior

Sees the team as a whole; acknowledges that performance of the team is what in reality is evaluated by others. If anyone fails, everyone on the team fails.



**45. ORAL COMMUNICATION** – Communicates orally in a clear, concise, and effective manner.

Level of Competency Required by Job:

Level 1: Exchange specific, job-related information orally with others in the immediate work environment or via telephone and/or radio.

Level 2: Obtain/provide/present general and/or job-specific information orally to a variety of others in various situations.

**Level 3: Obtain/provide/present a diverse array of information orally at varying levels of complexity to a wide range of others across many different situations and circumstances.**

Examples of Behavioral Indicators:

- Audience clearly understands the intended message.
- Rarely must repeat information in response to questions.
- Refrains from use of unnecessary words, phrases, or jargon.
- Provides a level of detail appropriate to the situation (avoids too much or too little detail).
- Speaks at a level appropriate to the audience in terms of terminology, sentence structure, and simplicity/complexity of ideas expressed.
- Uses words with precision (vocabulary) to convey exact information.

Performance Levels:

Satisfactory

Speaks clearly and audibly, providing the appropriate information and level of detail. Typically conveys the message on the first attempt. Answers questions accurately and directly.

Superior

Speech is direct and to the point. Speaks convincingly and with authority when appropriate. Maintains sensitivity to the audience while providing thorough information with the appropriate level of detail through the use of precise language.

## 47. WRITTEN COMMUNICATION – Communicates effectively in writing.

### Level of Competency Required by Job:

Level 1: Write notes/e-mails. Completes forms with some open-ended responses (sentences).

Level 2: Write letters, articles/reports, and/or detailed descriptions of activities/occurrences.

**Level 3: Write lengthy reports, instruction manuals, in-depth analyses/reviews of complex issues and/or articles for publication. Reviews the written work of others.**

### Examples of Behavioral Indicators:

- Writing includes the necessary information to convey the intended message.
- Sufficiently few errors in spelling, punctuation, grammar to not interfere with the intended message or distract the reader.
- Little editing or re-writing needed to produce a final product.
- Composes materials efficiently.
- Information is presented in a well organized manner.
- Tone and degree of formality are appropriate to the purpose and audience.

### Performance Levels:

#### Satisfactory

Writes material that clearly communicates the necessary information; needs little editing.

#### Superior

Precisely uses words and organizes information in a way that enhances presentation of the message. Virtually no editing needed.