

**COMPETENCY MODEL FOR
MECHANICAL ENGINEERING DRAFTING TECHNICIAN
CLASS CODE 7551**

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

- 5. Learning Ability
- 6. Attention to Detail
- 8. Safety Focus
- 12. Conscientiousness
- 20. Job Knowledge
- 22. Clerical Speed and Accuracy
- 25. Space Visualization
- 31. Results Orientation
- 40. Credibility

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.

5. LEARNING ABILITY – Readily acquires and applies new information.

Level of Competency Required by Job:

- Level 1: Learn job-related information, rules, and procedures, and apply them correctly.
- Level 2: **Learn and apply extensive job-related information correctly. Make reasonable inferences when specific information needed in a given instance was not presented.**
- Level 3: Access new job-related information via print or electronic media, in educational/training programs, and/or by speaking with others, and apply it correctly to the job.

Examples of Behavioral Indicators:

- Recalls information presented in educational/training programs.
- Recognizes how to apply newly acquired information to the job.
- Applies new information to the job in a way that increases productivity.
- Applies “lessons learned” from prior work experiences to current work.
- Answers questions/coaches others who received the same instruction.

Performance Levels:

Satisfactory

Learns new information and applies it appropriately to situations/issues.

Superior

Readily acquires new information, makes appropriate inferences based on it, and integrates it with prior learning and experience to maximize its use in a variety of situations or with respect to a variety of issues.

6. ATTENTION TO DETAIL – Extremely careful in addressing all aspects of each work assignment in order to produce “completed staff work” and/or avoid any negative outcomes.

Level of Competency Required by Job:

Level 1: Ensure all aspects of work assignment are completed as directed.

Level 2: **Verify that each aspect of work assignment is properly completed; make logical inference regarding additional activities that may need to be performed to produce “completed staff work.”**

Level 3: Include evaluation of final work/work product in its accomplishment; make adjustments as possible to improve.

Examples of Behavioral Indicators:

- Carefully checks all aspects of work for completion and accuracy before submitting.
- Identifies errors (for example, typo’s, computations, measurements, application of laws/rules/policies) and corrects them prior to submitting.
- Cross-checks work against available resources.
- Sets up a means of checks and balances to ensure work accuracy.
- Considers changes in final work product to ensure usability by recipient.
- Completes all revisions upon request.

Performance Levels:

Satisfactory

Ensures that each task accomplished represents “completed staff work.” No remaining details/ inconsistencies for others to address.

Superior

All aspects of each task completed are verified to be correct. Identifies any foreseeable consequences of work that may need to be addressed and does so.

8. SAFETY FOCUS – Performs work in a way that minimizes risk of injury to self or others.

Level of Competency Required by Job:

- Level 1: Maintain awareness of unsafe conditions and actions to avoid injury.
- Level 2: Follow safety rules/procedures; avoid known hazards in the work environment.
- Level 3: **Carefully follow safety rules and procedures and consistently use all necessary safety equipment.**

Examples of Behavioral Indicators:

- Wears seat belt.
- Ensures safe physical work environment by taking actions such as eliminating unstable stacks of materials, closing drawers so filing cabinets will not tip over, and keeping pathways clear of tripping hazards.
- Reviews safety procedures before beginning each job with known hazards.
- Follows safety procedures while performing work even when it takes more time.
- Uses safety equipment such as goggles, gloves, and earplugs as required or warranted.
- Frequently checks safety equipment for proper condition and operation.

Performance Levels:

Satisfactory

Maintains awareness of personal safety to avoid injury or property damage during all work activities.

Superior

“Safety first.” Places avoidance of injury or property damage above all other job requirements. Mentions the need to follow safe work practices to co-workers. Actively seeks ways to avoid injury.

12. CONSCIENTIOUSNESS – Dependable, reliable, diligent, and attends to all aspects of assignments (the “details”).

Level of Competency Required by Job:

- Level 1: Remain on-task and make every reasonable effort to complete work in time allotted. Note discrepancies and takes action or informs appropriate person when “things don’t seem right” in information or data.
- Level 2: **Note when own work logically relates to the work of others and coordinate with them and when additional tasks must be performed to complete an assignment and perform/assign them. Recognize when, despite best efforts, work will not be done and notifies supervision.**
- Level 3: Attend to each area of responsibility, and if all are not being addressed, arrange for transfer or elimination of some of them. Ensure that all aspects of programs/projects are properly addressed to ensure success.

Examples of Behavioral Indicators:

- Seeks all necessary information to do the job well.
- Learns from experience so can recognize when things are not right.
- Maintains a high level of task-related behavior.
- Continues to work diligently in the absence of supervision.
- Fully attends to seemingly minor as well as major aspects of each work assignment.

Performance Levels:

Satisfactory

Fully attends to work at hand; notes details, errors, and discrepancies and follows-up as necessary. Reliably performs and completes work. Punctual; respectful of others’ time.

Superior

Notes relationship of own work to work of others to ensure all aspects are coordinated. Performs additional tasks and otherwise follows-up to ensure thoroughness.

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 the methods, equipment, and materials such as wood, paper, plastic, and steel used in mechanical engineering drafting in order to complete drawings.
2. Knowledge of potential mechanical engineering problems in areas such as construction, modification, and repair sufficient to recognize them and relate them to details which appear in diagrams, schematics, and plans.
3. Knowledge of the details, drafting conventions and symbols, used in different types of drawings, such as power piping, computer aided drafting, heating ventilation and air conditioning, automotive bodies, plumbing and fire protection in order to complete drawings.
4. Knowledge of the characteristics of various reproduction processes such as allowable amounts of reduction or enlargement, quality of reproduction and dimensional stability in order to reproduce drawings.
5. Knowledge of arithmetic functions such as algebra and geometry and its application in order to complete computations of dimensions, weight bearing ability and placing of pipe supports, pipe spools, quantity of materials; as well as duct and pipe sizing.
6. Knowledge of the principles of mechanical engineering such as arithmetic and psychics involved in order to resolve drafting problems.
7. Knowledge of principles such as orthographic, isometric, oblique and perspective projection drawings sufficient to prepare drawings.
8. Knowledge of various computer software applications such as Computer Aided Drafting (CAD) in order to produce drawings.
9. Knowledge of documents such as graphs, charts, and engineering tables sufficient to read, interpret, and prepare them for various mechanical engineering drafting assignments
10. Knowledge of effective collaboration techniques sufficient to assist and cooperate in the work of groups of employees engaged in mechanical engineering drafting projects such as construction, repairs, and alterations in order to produce drawings.
11. Knowledge of the various phases needed to complete a mechanical engineering drafting project sufficient to estimate time requirements and analyze drafting progress and problems.

22. CLERICAL SPEED AND ACCURACY – Correctly and quickly notes accuracy versus inaccuracy in printed material and numerical data.

Level of Competency Required by Job:

- Level 1: Proofread own written material; verify own data.
- Level 2: **Proofread written material, verify data, and confirm the accuracy of other information such as that on forms, lists, or schedules, for someone else.**
- Level 3: Recording, entering, comparing, and/or verifying information and/or data is a primary job duty and must be performed quickly and accurately.

Examples of Behavioral Indicators:

- Notes virtually all typos in printed material.
- Enters data quickly and accurately.
- When verifying entries, identifies and corrects all errors.
- Identifies errors on forms completed before the information is used by others.
- Notes even minor inconsistencies in the presentation of detailed information.

Performance Levels:

Satisfactory

Makes few errors when recording, comparing, or entering information or data. Verifies and corrects information and data in a way that results in a virtually error-free work product.

Superior

Records, compares, and enters information and data with exceptional speed and accuracy. Virtually no errors identified during verification.

25. SPACE VISUALIZATION – Pictures and manipulates objects “in the mind’s eye;” accurately perceives the location longer in sight.

Level of Competency Required by Job:

- Level 1: Perceive presence of unseen stationary objects from objects in view. Mentally tracks location of moving objects even when they are out of sight.
- Level 2: **Visualize an object from various perspectives and/or the appearance of a rotated object from a single perspective.**
- Level 3: Visualize a completed design, and the relationship of objects in it, before it has been constructed. Recognizes the changed relationship among objects when one or more of them is moved.

Examples of Behavioral Indicators:

- Efficiently packs items into boxes.
- Accurately estimates the amount of storage space needed for a given amount of materials.
- Sketches a finished product before it is produced.
- Accurately estimates the type and quantity of materials needed to produce a given product.
- Understands complex systems that process liquids or gasses.

Performance Levels:

Satisfactory

Perceives the results of motion with sufficient accuracy to avoid accident or injury. Efficiently packs/ stores materials. Visualizes the finished product before work is initiated.

Superior

Develops a means of producing/ constructing a finished product or system in compliance with design specifications. Recognizes how changes in the construction process or materials will affect results.

31. RESULTS ORIENTATION – Maintains a focus on objectives to be achieved and acts accordingly to ensure their accomplishment.

Level of Competency Required by Job:

- Level 1: Remain focused on the task at hand and its purpose. May alter activities if the same result will be achieved. Does not become distracted by extraneous information, events, or details.
- Level 2: **Remain focused on the objectives to be achieved and take all reasonable actions necessary to achieve them. If initial activities to achieve objectives are unsuccessful, tries other approaches.**
- Level 3: Remain focused on outcome and not process, when possible, in the monitoring and evaluation of staff work. Encourage staff to maintain focus on the objectives of their work and not to be overly affected by nuisances or frustration.

Examples of Behavioral Indicators:

- Clearly understands the purpose/objectives of work assignments.
- Recognizes that there are typically many ways to achieve the same objective.
- Makes multiple attempts to achieve objectives when necessary.
- Does not become distracted by unimportant or irrelevant issues.
- Ignores distracters in order to maintain pursuit of the desired outcome.

Performance Levels:

Satisfactory

Maintains a focus on desired outcomes and makes every reasonable attempt to achieve them. Always recognizes the purpose or objective of work activities.

Superior

Maintains a clear focus on desired results, and is persistent in attempts to achieve them. Insistent that all work activities lead to goal accomplishment; expresses dissatisfaction with activities that have no apparent impact.

40. CREDIBILITY – Is truthful and sincere; objectively and clearly provides all pertinent information rather than being vague, omitting negative information or only stating what listeners “want to hear.”

Level of Competency Required by Job:

Level 1: Freely and openly share accurate job-related information with co-workers.

Level 2: Provide complete, accurate information to other City employees and members of the public.

Level 3: Represent department to the Mayors’ Office, City Council, City Commissions, and/or department heads, and/or to external organizations, professional associations, and/or the media.

Examples of Behavioral Indicators:

- Admits mistakes.
- Information provided is consistent (not contradictory or stating different things to different people).
- Answers questions directly and thoroughly.
- Shares credit for achievements.
- Acts in the best interest of the organization, not self-interest.

Performance Levels:

Satisfactory

“Tells the complete story” from the onset. Is forthcoming with full information when questioned. Statements are consistent. Readily admits mistakes and gives credit to others.

Superior

Information provided is complete and accurate, and includes any negative information or information contrary to self-interest. Does not attempt to be vague or put a “spin” on negative information to make it appear more positive.