

**COMPETENCY MODEL FOR
APPRENTICE MACHINIST (2026)
CLASS CODE 3764**

The following competencies have been identified as those that best separate superior from satisfactory job performance in the class of **APPRENTICE MACHINIST**.

- 2. Mathematics
- 3. Judgement and Decision Making
- 5. Learning Ability
- 6. Attention to Detail
- 11. Initiative
- 20. Job Knowledge
- 24. Mechanical Aptitude
- 35. Teamwork
- 46. Listening

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

2. MATHEMATICS – Performs arithmetic or higher-level mathematical computations accurately.

Level of Competency Required by Job:

Level 1: Perform arithmetic computations (add, subtract, multiply, divide, ratios, percentages).

Level 2: Use algebra (substitute numbers for letters in a formula), geometry (angles, distances, area), and/or descriptive statistics (mean/median/mode, standard deviation, range).

Level 3: Apply and interpret calculus, inferential statistics (t-tests, correlations, ANOVA, multiple regression) or other very high level mathematics.

Examples of Behavioral Indicators:

- Quickly and accurately performs arithmetic computations.
- Appropriately selects and applies formulas for stated purpose.
- Correctly identifies an appropriate analysis for a specific purpose and selects the appropriate computer program for computation.
- Accurately interprets and presents results of mathematical/statistical computations.

Performance Levels:

Satisfactory

Knows mathematical requirements of the job and performs them correctly. Verifies work to ensure accuracy.

Superior

Identifies additional opportunities for the application of mathematics in work. Answers questions/trains others to assist them in their use of mathematics.

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.

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.

11. INITIATIVE – Generates activity that facilitates accomplishment of work.

Level of Competency Required by Job:

Level 1: Offer to help co-workers and/or recognize things to do that facilitate work group accomplishment.

Level 2: Identify new tasks/projects to be undertaken and assist others with accomplishment of their work.

Level 3: Determine additional work necessary to improve the function and productivity of the organization or its services to citizens or other customers.

Examples of Behavioral Indicators:

- Makes suggestions for improvement in work quality or quantity.
- Finds work to do when own work is slow rather than allow diminished personal productivity.
- Expands scope of work/responsibility in appropriate directions.
- Anticipates upcoming events in order to prepare for them.

Performance Levels:

Satisfactory

Generates goal directed activity rather than waiting to be told what to do. Anticipates what is likely to occur in order to be able to prepare; recognizes that preparation for (and clean-up after) a job is part of doing the job.

Superior

Actively pursues additional tasks/responsibilities that will facilitate effectiveness. Makes extensive preparations for upcoming events or expected changes.

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 basic mechanic skills such as use of torque wrenches or hydraulic wrenches sufficient to secure components to specifications.
2. Knowledge of the use, function, and identification of machinist hand tools such as measuring tape, scales, angle finders, calipers, and micrometers in order to fabricate materials and products to specific sizings and specifications.
3. Knowledge of trade terminology such as tolerance, surface finish, and datum in order to read blue prints and ensure precision and quality of parts and products.
4. Knowledge of safety practices common to the trade such as machine operation safety, and proper PPE utilization sufficient to ensure work area safety and prevent accidents.
5. Knowledge of machinist tools and equipment such as lathes, mills, and grinders in order to plan machining operations appropriately.
6. Knowledge of interpreting diagrams and blueprints of machinery and equipment such as locating necessary dimensions, tolerances, and material requirements for the equipment in order to fabricate or repair components to proper specifications.

24. MECHANICAL APTITUDE – Accurately predicts the impact of forces on objects and assesses the behavior of other physical phenomena (e.g., volume, weight, velocity). Readily learns work involving the application of mechanical principles.

Level of Competency Required by Job:

Level 1: Maintain a safe work environment by ensuring objects in it are stable, tools and equipment are properly used.

Level 2: Know the physical properties of objects in the work environment and correctly anticipate the action of forces upon them; performs work accordingly (correctly and safely).

Level 3: In-depth understanding of mechanical and physical phenomena sufficient to design and/or oversee the construction of systems.

Examples of Behavioral Indicators:

7. Recognizes the impact of an earthquake on objects in the work environment and re-arranges them as possible to avoid possible damage or destruction and potential to cause injury.
8. Uses tools properly to accomplish work correctly and safely.
9. Recognizes the effects of various actions on objects and performs only those actions that will accomplish intended result and will not cause property damage or injury.
10. Systems designed and/or for which construction is overseen operate as intended upon completion.

Performance Levels:

Satisfactory

Recognizes the operation of mechanical/physical phenomena sufficient to readily learn and perform work of a mechanical nature.

Superior

Displays exceptional insight into the operation of mechanical phenomena, and makes correct inferences regarding it. Promptly and accurately troubleshoots problems.

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.

46. LISTENING – Hears and acknowledges what others say.

Level of Competency Required by Job:

Level 1: Attentive to others speaking in interpersonal interactions.

Level 2: Comprehend information from others one-on-one, in group settings, and from oral presentations.

Level 3: Comprehend information provided/questions asked by others in public forums or other stressful circumstances.

Examples of Behavioral Indicators:

- Demonstrates correct understanding of issue as expressed by customer.
- Recalls details of information provided by a speaker.
- Expresses subtleties/nuances in information conveyed by others.
- “Answers the question asked.”
- Conveys correct information based on information obtained from a speaker.

Performance Levels:

Satisfactory

Comprehends the message conveyed by the speaker. Rephrases information clearly and accurately; recalls information and details, and answers questions about the information correctly.

Superior

Recalls specific terminology used by a speaker when important. Accurately understands subtleties and nuances in spoken language. Answers questions completely, demonstrating clear and complete comprehension of the questioners' full inquiry.