

MECHANICAL ENGINEERING DRAFTING TECHNICIAN, 7551

Summary of Duties: Performs responsible mechanical engineering drafting for a variety of electrical stations, water works, general facilities, and other mechanical engineering projects; and does related work.

Distinguishing Features: A Mechanical Engineering Drafting Technician works under general supervision of an Engineer or Principal Mechanical Engineering Drafting Technician who interpret drafting orders and approve completed work. An employee of this class receives technical guidance and exercises independent judgment in arranging multi-part layouts. Work is expected to be accurate in every respect, and is reviewed for completeness and conformity to established drafting standards.

A Mechanical Engineering Drafting Technician performs subprofessional work in the field of mechanical engineering and, by applying common drafting principles, may do drafting in other engineering disciplines. An employee of this class performs little or no work involving design responsibility, extensive computations or complex specifications and estimates. Mechanical Engineering Drafting Technician is distinguished from the class of Civil Engineering Drafting Technician in that the latter performs drafting work primarily for transportation and distribution projects such as docks, bridges, streets, sewers, airport runways, highways and pavements.

Examples of Duties: Works from written and oral engineering instructions, designers' sketches, marked prints, departmental standards handbooks, and manufacturers' catalogs in preparing and revising, by manual drafting or the use of Computer Aided Drafting (CAD) equipment, preliminary and final mechanical engineering design drawings for use in the construction, installation, operation, and maintenance of a variety of electrical stations, water works and general facilities, automotive and construction equipment, and ventilating and plumbing systems; prepares cross sections, plans, profiles, orthographic, schematic, isometric and elevation drawings; prepares charts, graphs and diagrams for special projects or for inclusion in technical reports; prepares specifications showing materials required; assigns numbers to parts and prepares parts lists; makes simple computations relating to capacities, sizes, clearances, and other missing dimensions, and enters the data on drawings; confers with contractors, design engineers and City personnel, and occasionally makes field visits to project sites, to obtain additional data, further clarification and to resolve problems; confers with manufacturers' representatives regarding construction and drafting materials; checks design drawings and details for conformance to drafting standards, approved techniques and Department requirements; may analyze drafting problems and suggest solutions, and refers the more unusual problems to supervisor; arranges the printing and

reproduction of drawings; maintains daily logs of individual and project progress and productivity; prepares memos as required to communicate within section or division; and may occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

Qualifications: A good knowledge of the principles, techniques, materials, equipment, instruments and nomenclature used in mechanical engineering drafting; a good knowledge of the principles of cross sections, profiles, orthographic, schematic, isometric and elevation drawings; a working knowledge of algebra, geometry and trigonometry; a working knowledge of all applicable Department, City, State and National codes and engineering standards; a working knowledge of printing and reproduction processes and applications; a general knowledge of physics and the principles of mechanical engineering; a general knowledge of Computer Aided Drafting (CAD); the ability to understand and follow oral and written instructions; the ability to communicate tactfully and effectively with City employees and others; the ability to check and verify that required information is provided; the ability to make simple computations using calculators or slide rules; the ability to produce complete and professionally acceptable mechanical engineering drawings and to prepare lists, charts, graphs and diagrams; the ability to do machine and free hand lettering; the ability to incorporate established drafting standards, techniques and requirements into drawings; the ability to analyze drafting problems and suggest solutions; and the ability to maintain daily logs and prepare reports and memos.

Completion of 12 semester units in drafting and 6 semester units in mathematics at a recognized college, trade, or technical school, or two years of full-time engineering drafting experience, one year of which was in mechanical drafting is required for Mechanical Engineering Drafting Technician.

Physical Requirements: Strength to perform average lifting of less than 5 pounds and occasionally over 15 pounds; good hearing and speaking ability; good eyesight; and hand and finger dexterity with both hands involved in operating drafting tools.

Persons with medical limitations may, with reasonable accommodations, be capable of performing the duties of some of the positions in this class. Such determination must be made on an individual basis in light of the person's limitations, the requirements of the position, and the appointing authority's ability to effect reasonable accommodations to the person's limitations.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties and responsibilities of any position shall be.