

SENIOR MECHANICAL ENGINEERING DRAFTING TECHNICIAN, 7210

Summary of Duties: Provides technical direction to, and checks the work of, a small group of Mechanical Engineering Drafting Technicians engaged in the preparation of drawings for a variety of mechanical engineering projects; performs drafting work for the more difficult projects; and does related work.

Distinguishing Features: The work performed by an employee of this class is subprofessional in the mechanical engineering field. Incumbents are given much independence by their superiors in handling most technical matters in the unit and usually serve as direct liaisons between engineers and drafting technicians. Finished work is checked against instructions, for accuracy, and for conformance to good design principles and practices. While some drafting work comparable to that done by Mechanical Engineering Drafting Technicians may be performed by Senior Mechanical Engineering Drafting Technicians, the latter receive the more difficult or complex assignments and provide lead supervision over the former. The ability to instruct drafting technicians and to coordinate work for the best utilization of their skills and resources is essential.

Examples of Duties: Assigns, coordinates, and reviews the manual drafting or Computer Aided Drafting (CAD) work prepared by Mechanical Engineering Drafting Technicians for use in a variety of mechanical engineering projects; instructs subordinates in the analysis of engineering instructions, field notes, sketches, marked prints, handbooks, and catalogs used in the preparation of drawings, and in the functions of parts and features of mechanical equipment and materials; instructs drafting technicians in various drafting procedures, techniques, and work processes; reviews for accuracy mathematical computations made by drafting personnel; reviews and advises in the preparation of detailed scaled drawings, cross sections, plans, isometric, orthographic, schematic and elevation drawings, and materials and parts lists; reviews work-in-progress drawings to verify correct representation of reference plans and engineering instructions, and use of approved techniques; reviews finished drawings for completeness, accuracy, constructability, and conformance to Department requirements and established City, State, and Federal codes and standards; visits project sites, occasionally with subordinates, to coordinate drafting work with change orders or to instruct subordinates by observing construction/installation methods and site conditions; confers with manufacturers, contractors, engineers and City personnel to secure additional data, design interpretations and clarification of facts; prepares or provides technical direction in the preparation of charts, graphs or diagrams for special projects or for inclusion in technical reports; reports unworkable features and specifications and suggests corrections;

Assists in the development of drafting standards for simplification of

drafting procedures and processes; develops and prepares the more difficult and complex drawings, using Computer Aided Drafting (CAD) equipment or by manual drafting; makes decisions on reproduction processes to be used; participates in the maintenance of computer stored records; assists in the preparation of records and reports on productivity, workload, and materials and equipment estimates; prepares memos as needed to communicate within section; assists with personnel matters in the unit such as work scheduling and assignments, time-off requests and personnel evaluations; 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 and nomenclature used in mechanical engineering drafting; a good knowledge of the principles of orthographic, schematic, isometric, cross section, profile, and elevation drawings; a good knowledge of the sources of engineering information; a good knowledge of the scope and interpretation of various Department, City, State and Federal codes and engineering standards; a good knowledge of algebra, plane geometry and trigonometry; a good knowledge of safety principles and practices; a working knowledge of the characteristics of printing and reproduction processes; a working knowledge of physics and principles of mechanical engineering; a general knowledge of Computer Aided Drafting (CAD); a general knowledge of rules and regulations concerning equal employment opportunity and affirmative action; a general knowledge of City personnel rules and regulations; a general knowledge of the provisions of Memoranda of Understanding pertaining to subordinate employees; the ability to direct and review the work of a small group of drafting personnel; the ability to use logarithmic, trigonometric, curve data and Smoley's tables; the ability to use drafting instruments, slide rules, computers, calculators, and similar computing equipment efficiently; the ability to give clear and concise oral and written instructions to subordinate personnel on a variety of mechanical engineering drafting procedures, techniques, and work processes; the ability to analyze drafting problems and provide practical solutions; the ability to perform the more difficult drafting work such as for complete systems or for sections of complex projects; the ability to prepare and review charts, graphs and diagrams; the ability to do machine and free hand lettering; the ability to deal tactfully, persuasively and effectively with City employees and others; and the ability to prepare clear and accurate standard and narrative reports, and other documents.

Three years of full-time paid experience as a Mechanical Engineering Drafting Technician or in a class which is at least at that level in mechanical engineering drafting is required for Senior 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; 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.