

WESTERN MICHIGAN UNIVERSITY**TITLE:** Millwright/Maintenance Mechanic**GRADE:** ST2**FUNCTIONS:**

This position provides journey level craft labor, working with hand and power tools to install, repair, overhaul, replace and perform preventive maintenance for mechanical systems and equipment. The incumbent installs, repairs and provides preventive maintenance for heating, air-conditioning, ventilation, water treatment and other building mechanical systems and equipment. The incumbent repairs, replaces and provides preventive maintenance on bearings, belts, pulleys, pumps, fans, compressors and other mechanical components; maintains and adjusts controls; and aligns equipment. This position dismantles equipment to access moving mechanical parts; cleans and lubricates moving parts; removes and replaces defective or damaged parts; and reassembles machinery. The incumbent inspects gear boxes and changes gear box oil; monitors circulating pumps, sump pumps and condensate pumps for proper operation; monitors damper operation and tunes damper motors; cleans filters; and checks and adjusts air pressure and fluid levels.

Incumbents holding the proper certification(s) required by law, will monitor p/h, FAC and TAC levels in swimming pool water and cooling towers, and correct those levels as necessary to maintain proper water condition. The incumbent monitors and corrects swimming pool water flow rate and backwashes filters. This position checks water hardness and alkalinity in swimming pools and water softeners. The incumbent adds appropriate quantities of chlorine and other water treatment chemicals to swimming pool, and other water in system storage vessels; inspects piping and tubing for and repairs leaks.

This position utilizes various types of hand tools and power tools to adjust valves and gauges, tighten belts and piping connections, and perform other maintenance and repair tasks. The incumbent uses pressure gauges to check levels of pressure in systems. The incumbent may employ welding equipment to install and/or repair piping. The incumbent employs electrical testing devices to evaluate the operating condition of machinery and equipment. The incumbent uses pipewrenches, socket wrenches, chainfalls, come-alongs and other tools and devices to dismantle and reassemble equipment. This position may employ specialized gauges and measurements to monitor TAC, FAC and p/h levels in stored water. The incumbent removes scale from pool walls with chemicals and brushes. This position works from floor/ground level to a height of four feet (48") with or without mechanical assistance, and works at heights up to 120 feet with the use of ladders, step ladders, scaffolding and mechanical devices. The incumbent may gain access to roof-top chillers by ascending ship's ladders or maintenance stairs, and may access internal building mechanical systems from cat walks, I-beams, scaffolds and/or ladders. The incumbent must be able to enter and maneuver in restricted and confined

spaces in order to access mechanical components and piping in crawl spaces, steam tunnels and duct work.

The incumbent assists in providing information required to update building and mechanical systems drawings to accurately reflect current status and, as assigned, assists in the technical training of an apprentice. This position assists in determining inventory requirements for supplies, construction materials and replacement parts, and notifies supervisory personnel when (re)ordering is necessary. This position operates a motor vehicle to transport tools, supplies and materials to work sites. The incumbent organizes assigned work so as to minimize materials and man-hours required for proper completion of work, and instructs others in the operation of and preventive maintenance for all related tools and equipment. The incumbent meets with customers to learn their needs and to review services that have been provided to ensure customer satisfaction. The incumbent recommends procedures and processes that enhance continuous improvement within the department.

This position maintains the work area, all tools, all equipment, all supplies and any assigned vehicle(s) in a neat, clean and orderly condition and performs all work in accordance with MIOSHA and other established safety practices. The incumbent must wear MIOSHA approved safety shoes at all times and must wear a hard hat, gloves and safety glasses when appropriate. The incumbent must wear a respirator when working with biocides, fungicides, corrosives and other water-treatment and cleaning chemicals, as well as when working with refrigerants. A face shield and MIOSHA approved leather gloves are required when using welding and burning equipment. Other protective gear must be worn as required by MIOSHA rules. When working in vaults and tunnels, the incumbent uses confined space air quality monitoring meters to monitor for the presence of toxic gases. The incumbent must wear no loose-fitting clothing which might become entangled in equipment or machinery, posing a hazard to incumbent's safety. This position performs additional duties as requested by supervisory personnel.

QUALIFICATIONS:

The incumbent must be able to read and comprehend written instructions and safety regulations regarding the performance of job duties, and must have sufficient writing and mathematical skills to prepare estimates and supply requisitions. Must have the ability to familiarize themselves with electronic communication devices for work orders and other communication. The incumbent must be able to interpret complex blueprints, diagrams, written specifications and operating instructions. Completion of a registered apprenticeship program and/or written verification of a minimum of five (5) years experience at the journeyman level in the trade is required. Possession of a valid Michigan driver's license is required for operation of any assigned vehicle used to transport tools, supplies, materials, and equipment between work sites.

In order to perform the essential functions of the job, the incumbent must be able to wear a tool belt weighing 20 lbs at all times while performing all functions. The incumbent must be able to ascend a six-foot (6') step ladder at least 20 times per day to repair, install and/or maintain equipment concealed in ceilings, walls, and self-contained equipment frames, as well as wall-mounted units. The incumbent must be able to enter and maneuver in restricted and

confined spaces in order to access HVAC components and piping in crawl spaces, steam tunnels and duct work. The incumbent may be required to ascend ship's ladders and/or maintenance stairs to heights up to seventy-five (75) feet up to 30 times per day in order to access cooling towers and other equipment mounted on roof tops. The incumbent must be able to raise equipment components and materials weighing up to 100 lbs with or without mechanical assistance as often as 50 times/day. The incumbent must be able to transport tanks, gauges, filters, drivers and other components and devices up and down ladders to roof-tops and to lower mechanical rooms. The incumbent works in close contact with chlorine, biocides, fungicides and other, inert chemicals when treating swimming pools.

The incumbent must be able to transport, manipulate and maneuver tools, machinery, and components. The incumbent must be able to work for two hours at a time at shoulder level or any intermediate level up to and including directly overhead. The incumbent must be able to tighten/loosen and make fine adjustments in valves, controls and gauges. The incumbent must be able to use screwdrivers, pliers, wire cutters, wrenches, and other tools of the trade to install, remove, dismantle, adjust, reassemble and re-install coils, piping, control gauges, tubes and other equipment elements and components. The incumbent must be able to work at ground/floor level and/or in restricted spaces up to two hours at a time for the entire length of shift in order to access equipment and machinery.

The incumbent must have depth perceptions to judge distance and special relations. S/he must be able to crouch and kneel for extended periods. The incumbent must be able to reach with arms and hands and grasp tools and equipment.

The incumbent must have a valid, verified drivers license. In order to obtain a valid Michigan driver's license, the incumbent must possess 20/40 vision with or without corrective lenses. The incumbent must possess 20/20 vision with or without corrective lenses and be able to properly place and align coils, tubes, pipes and other components. The incumbent must be able to accurately read temperature, pressure and fluid level gauges. The incumbent must have excellent auditory acuity with or without audiological appliances in order to identify appropriate and inappropriate machinery sounds and thereby determine the location of defective bearings and other damaged or deteriorating moving mechanical parts.

The incumbent must be able to tolerate exposure to extreme temperatures ranging from -25⁰ F to 130⁰ F, depending on seasonal weather conditions and location of interior/exterior work assignments. The incumbent must be able to tolerate noise levels up to 95 decibels when working in mechanical rooms and other areas and must be able to tolerate exposure to dirt, dust, pollen and other airborne debris. The incumbent must be able to work in proximity with 440 volt power sources up to eight hours per day. The incumbent must be able to tolerate exposure to dampness, refrigerants and other gasses, biocides, fungicides, corrosives and other water treatment chemicals. Additionally, the incumbent must be able to tolerate exposure to microwaves, fans, blowers, motors, and other electrical equipment.

A physical examination administered by the employer's designated physician is required to

determine the incumbent's ability to perform the essential functions of the job and/or identify the need for reasonable job accommodation.