



## JOB TITLES AND ASSOCIATED TASKS Sorted by Cognofile

### Perform Cognofile

#### **11-9012. 00 Farmers and Ranchers Entry – Mid – Senior level position assuming education and experience prerequisite**

Harvests crops and collects specialty products, such as royal jelly from queen bee cells and honey from honeycombs. Sets up and operates farm machinery to till soil, plant, prune, fertilize, apply herbicides and pesticides, and haul harvested crops. Inspects growing environment to maintain optimum growing or breeding conditions. Determines kind and quantity of crops or livestock to be raised, according to market conditions, weather, and farm size. Breeds and raises stock, such as animals, poultry, honeybees, or earthworms. Arranges with buyers for sale and shipment of crops. Hires and directs workers engaged in planting, cultivating, irrigating, harvesting, and marketing crops and raising livestock. Assembles, positions, and secures structures, such as trellises or beehives, using hand tools. Lubricates, adjusts, and makes minor repairs on farm equipment, using oilcan, grease gun, and hand tools. Grades and packages crop for marketing. Maintains employee and financial records. Demonstrates and explains farm work techniques and safety regulations to workers. Installs irrigation systems and irrigates fields. Selects and purchases supplies and equipment, such as seed, tree stock, fertilizers, farm machinery, implements, livestock, and feed. Destroys diseased or superfluous crops, such as queen bee cells, bee colonies, parasites, and vermin. Plans harvesting considering ripeness and maturity of crop and weather conditions. Grows out of season crops in greenhouse or early crops in cold-frame bed, or buds and grafts plant stock.

#### **17-1012. 00 Landscape Architects Entry – Mid – Senior level position assuming education and experience prerequisite**

Prepares site plans, specifications, and cost estimates for land development, coordinating arrangement of existing and proposed land features and structures. Compiles and analyzes data on conditions, such as location, drainage, and location of structures for environmental reports and landscaping plans. Inspects landscape work to ensure compliance with specifications, approve quality of materials and work, and advise client and construction personnel. Confers with clients, engineering personnel, and architects on overall program.

#### **19-1031. 01 Soil Conservationists Entry – Mid – Senior level position assuming education and experience prerequisite**

Plans soil management practices, such as crop rotation, reforestation, permanent vegetation, contour plowing, or terracing, to maintain soil and conserve water. Develops plans for conservation, such as conservation cropping systems, woodlands management, pasture planning and engineering systems. Analyzes results of investigations to determine measures needed to maintain or restore proper soil management. Monitors projects during and after construction to ensure projects conform to design specifications. Surveys property to mark locations and measurements, using surveying instruments. Revisits land users to view implemented land use practices and plans. Discusses conservation plans, problems, and alternative solutions with land users, applying knowledge of agronomy, soil science, forestry, or agricultural sciences. Computes cost estimates of different conservation practices based on needs of land users, maintenance requirements and life expectancy of practices. Develops or participates in environmental studies. Computes design specification for implementation of conservation practices, using survey and field information technical guides, engineering manuals, and calculator. Conducts surveys and investigations of various land uses, such as rural or urban, agriculture, construction, forestry or mining.

#### **19-1031. 02 Range Managers Entry – Mid – Senior level position assuming education and experience prerequisite**

Studies rangelands to determine best grazing seasons. Develops methods for protecting range from fire and rodent damage. Plans and directs construction of range improvements, such as fencing, corrals, stock-watering reservoirs and soil-erosion control structures. Plans and directs maintenance of range improvements. Develops methods for controlling poisonous plants in rangelands. Studies rangelands to determine number and kind of livestock that can be most profitably grazed. Develops improved practices for range reseeding. Studies forage plants and their growth requirements to determine varieties best suited to particular range.

#### **19-1031. 03 Park Naturalists Entry – Mid – Senior level position assuming education and experience prerequisite**

Conducts field trips to point out scientific, historic, and natural features of park. Constructs historical, scientific, and nature visitor-center displays. Surveys park to determine forest conditions. Plans and organizes activities of seasonal staff members. Performs emergency duties to protect human life, government property, and natural features of the park. Maintains official park photographic and information files. Surveys park to determine distribution and abundance of fauna and flora. Takes photographs and motion pictures to illustrate lectures and publication and to develop displays. Prepares and presents illustrated lectures of park features. Plans and develops audiovisual devices for public programs.



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Confers with park staff to determine subjects to be presented to public. Interviews specialists in desired fields to obtain and develop data for park information programs.

### **19-1032. 00 Foresters Entry – Mid – Senior level position assuming education and experience prerequisite**

Plans and directs forestation and reforestation projects. Investigates adaptability of different tree species to new environmental conditions, such as soil type, climate and altitude. Determines methods of cutting and removing timber with minimum waste and environmental damage. Studies classification, life history, light and soil requirements and resistance to disease and insects of different tree species. Manages tree nurseries and thins forest to encourage natural growth of sprouts or seedlings of desired varieties. Assists in planning and implementing projects for control of floods, soil erosion, tree diseases, infestation, and forest fire. Develops techniques for measuring and identifying trees. Advises landowners on forestry management techniques. Directs suppression of forest fires and fights forest fires. Supervises activities of other forestry workers. Suggests methods of processing wood for various uses. Conducts public educational programs on forest care and conservation. Plans and directs construction and maintenance of recreation facilities, fire towers, trails, roads, and firebreaks. Participates in environmental studies and prepares environmental reports. Maps forest areas and estimates standing timber and future growth. Analyzes forest conditions to determine reason for prevalence of different variety of trees. Researches forest propagation and culture affecting tree growth rates, yield, and duration and seed production, growth viability, and germination of different species. Plans cutting programs to assure continuous production or to assist timber companies to achieve production goals.

### **19-4011. 01 Agricultural Technicians Entry level position assuming education and experience prerequisite**

Sets up laboratory and field equipment to assist research workers. Cleans and maintains laboratory and field equipment and work areas. Plants seeds in specified area, and counts plants that grow, to determine germination rate of seeds. Pricks animals, and collects blood samples for testing, using hand-held devices. Records production and test data for evaluation by personnel. Measures or weighs ingredients used in testing or as animal feed. Adjusts testing equipment and prepares culture media, following standard procedures. Waters and feeds rations to livestock and laboratory animals. Examines animals and specimens to determine presence of disease or other problems.

### **19-4011. 02 Food Science Technicians Entry – Mid level position assuming education and experience prerequisite**

Conducts standardized tests on food, beverages, additives, and preservatives to ensure compliance to standards for factors such as color, texture, nutrients, and coloring. Tastes or smells food or beverages to ensure flavor meets specifications or to select samples with specific characteristics. Computes moisture or salt content, percentage of ingredients, formulas, or other product factors, using mathematical and chemical procedures. Mixes, blends, or cultivates ingredients to make reagents or to manufacture food or beverage products. Prepares slides and incubates slides with cell cultures. Orders supplies to maintain inventory in laboratory or in storage facility of food or beverage processing plant. Measures, tests, and weighs bottles, cans, and other containers to ensure hardness, strength, and dimensions meet specifications. Cleans and sterilizes laboratory equipment. Records and compiles test results, and prepares raphs, charts, and reports. Examines chemical and biological samples to identify cell structure, bacteria, or extraneous material, using microscope. Analyzes test results to classify product, or compares results with standard tables.

### **19-4093. 00 Forest and Conservation Technicians Entry – Mid level position assuming education and experience prerequisite**

Compile data pertaining to size, content, condition, and other characteristics of forest tracts, under direction of foresters. Train and lead forest workers in forest propagation, fire prevention and suppression. May assist conservation specialists in managing, improving, and protecting rangelands and wildlife habitats. Provide technical assistance regarding the conservation of soil, water, and related natural resources.

### **27-2021. 00 Athletes and Sports Competitors Entry – Mid – Senior level position assuming education and experience prerequisite**

Participates in athletic events and competitive sports, according to established rules and regulations. Plays professional sport and is identified according to sport played, such as football, basketball, baseball, hockey, or boxing. Represents team or professional sports club, speaking to groups involved in activities, such as sports clinics and fundraisers. Exercises and practices under direction of athletic trainer or professional coach to prepare and train for competitive events.

### **27-2031. 00 Dancers Entry – Mid – Senior level position assuming education and experience prerequisite**

Performs classical, modern, or acrobatic dances in productions. Rehearses solo or with partners or troupe members. Coordinates dancing with that of a partner or dance ensemble. Works with choreographer to refine or modify dance



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steps. Auditions for parts in productions. Devises and choreographs dance for self or others. Studies and practices dance moves required in role.  
Harmonizes body movements to rhythm of musical accompaniment.

### **29-2056. 00 Veterinary Technologists and Technicians Entry – Mid – Senior level position assuming education and experience prerequisite**

Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals. Prepare vaccines and serums for prevention of diseases. Prepare tissue samples, take blood samples, and execute laboratory tests, such as urinalysis and blood counts. Clean and sterilize instruments and materials and maintain equipment and machines.

### **31-2021. 00 Physical Therapists Assistants Mid level position assuming education and experience prerequisite**

Fits patients for orthopedic braces, prostheses, and supportive devices, such as crutches. Performs clerical duties, such as taking inventory, ordering supplies, answering telephone, taking messages, and filling out forms. Cleans work area and equipment after treatment. Transports patients to and from treatment area. Records treatment given and equipment used. Administers active and passive manual therapeutic exercises, therapeutic massage, and heat, light, sound, water, and electrical modality treatments, such as ultrasound. Administers traction to relieve neck and back pain, using intermittent and static traction equipment. Instructs, motivates, and assists patients to learn and improve functional activities, such as perambulation, transfer, ambulation, and daily living activities. Safeguards, motivates, and assists patients practicing exercises and functional activities under direction of professional staff. Trains patients in use and care of orthopedic braces, prostheses, and supportive devices, such as crutches. Adjusts fit of supportive devices for patients, as instructed. Provides routine treatments, such as hydrotherapy, hot and cold packs, and paraffin bath. Confers with physical therapy staff and others to discuss and evaluate patient information for planning, modifying, and coordinating treatment. Secures patients into or onto therapy equipment. Observes patients during treatments and compiles and evaluates data on patient's responses to treatments and progress, and reports to physical therapist. Measures patient's range of joint motion, body parts, and vital signs to determine effects of treatments or for patient evaluations. Assists patients to dress, undress, and put on and remove supportive devices, such as braces, splints, and slings.

### **31-2022. 00 Physical Therapist Aides Entry level position assuming education and experience prerequisite**

Observes patients during treatment and compiles and evaluates data on patient's responses to treatments and progress, and reports to physical therapist. Administers active and passive manual therapeutic exercises, therapeutic massage, and heat, light, sound, water, and electrical modality treatments, such as ultrasound. Administers traction to relieve neck and back pain, using intermittent and static traction equipment. Instructs, motivates, and assists patients to learn and improve functional activities, such as perambulation, transfer, ambulation, and daily living activities. Safeguards, motivates, and assists patients practicing exercises and functional activities under direction of professional staff. Trains patients in use and care of orthopedic braces, prostheses, and supportive devices, such as crutches. Adjusts fit of supportive devices for patients, as instructed. Provides routine treatments, such as hydrotherapy, hot and cold packs, and paraffin bath. Performs clerical duties, such as taking inventory, ordering supplies, answering telephone, taking messages, and filling out forms. Cleans work area and equipment after treatment. Transports patients to and from treatment area. Fits patients for orthopedic braces, prostheses, and supportive devices, such as crutches. Records treatment given and equipment used. Assists patients to dress, undress, and put on and remove supportive devices, such as braces, splints, and slings. Measures patient's range-of-joint motion, body parts, and vital signs to determine effects of treatments or for patient evaluations. Confers with physical therapy staff and others to discuss and evaluate patient information for planning, modifying, and coordinating treatment. Secures patients into or onto therapy equipment.

### **31-9096. 00 Veterinary Assistants and Laboratory Animal Caretakers Entry – Mid level position assuming education and experience prerequisite**

Assists veterinarian in variety of animal health care duties, including injections, venipunctures, and wound dressings. Completes routine laboratory tests and cares for and feeds laboratory animals. Inspects products or carcasses to ensure compliance with health standards, when employed in food processing plant. Assists professional personnel with research projects in commercial, public health, or research laboratories. Assists veterinarian during surgical procedures, passing instruments and materials in accordance with oral instructions. Prepares examination or treatment room, and holds or restrains animal during procedures. Prepares patient, medications, equipment, and instruments for surgical procedures, using specialized knowledge.

### **33-1012. 00 First-Line Supervisors/Managers of Police and Detectives Senior level position assuming education and experience prerequisite**



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Prepares work schedules, assigns duties, and develops and revises departmental procedures. Supervises and coordinates investigation of criminal cases. Disciplines staff for violation of department rules and regulations. Monitors and evaluates job performance of subordinates. Investigates and resolves personnel problems within organization. Prepares reports and directs preparation, handling, and maintenance of departmental records. Prepares budgets and manages expenditures of department funds. Requisitions and issues department equipment and supplies. Reviews contents of written orders to ensure adherence to legal requirements. Directs release or transfer of prisoners. Meets with civic, educational, and community groups to develop community programs and events and addresses group concerning law enforcement subjects. Conducts raids and orders detention of witnesses and suspects for questioning. Cooperates with court personnel and officials from other law enforcement agencies and testifies in court. Prepares news releases and responds to police correspondence. Inspects facilities, supplies, vehicles, and equipment to ensure conformance to standards. Trains staff. Investigates charges of misconduct against staff. Assists subordinates in performing job duties. Directs collection, preparation, and handling of evidence and personal property of prisoners.

### **33-1021. 01 Municipal Fire Fighting and Prevention Supervisors Senior level position assuming education and experience prerequisite**

Coordinates and supervises fire fighting and rescue activities, and reports events to supervisor, using two-way radio. Assesses nature and extent of fire, condition of building, danger to adjacent buildings, and water supply to determine crew or company requirements. Directs investigation of cases of suspected arson, hazards, and false alarms. Evaluates efficiency and performance of employees, and recommends awards for service. Directs building inspections to ensure compliance with fire and safety regulations. Keeps equipment and personnel records. Oversees review of new building plans to ensure compliance with laws, ordinances, and administrative rules for public fire safety. Writes and submits proposal for new equipment or modification of existing equipment. Compiles report of fire call, listing location, type, probable cause, estimated damage, and disposition. Studies and interprets fire safety codes to establish procedures for issuing permits regulating storage or use of hazardous or flammable substances. Orders and directs fire drills for occupants of buildings. Confers with civic representatives, and plans talks and demonstrations of fire safety to direct fire prevention information program. Inspects fire stations, equipment, and records to ensure efficiency and enforcement of departmental regulations. Trains subordinates in use of equipment, methods of extinguishing fires, and rescue operations.

### **33-1021. 02 Forest Fire Fighting and Prevention Supervisors Senior level position assuming education and experience prerequisite**

Dispatches crews according to reported size, location, and condition of forest fires. Parachutes to major fire locations and directs fire containment and suppression activities. Trains workers in parachute jumping, fire suppression, aerial observation, and radio communication. Maintains radio communication with crews at fire scene to inform crew and base of changing conditions and learn of casualties. Directs loading of fire suppression equipment into aircraft and parachuting of equipment to crews on ground. Observes fire and crews from air to determine force requirements and note changing conditions.

### **33-2011. 01 Municipal Fire Fighters Entry – Mid level position assuming education and experience prerequisite**

Positions and climbs ladders to gain access to upper levels of buildings, or to rescue individuals from burning structures. Protects property from water and smoke, using waterproof salvage covers, smoke ejectors, and deodorants. Creates openings in buildings for ventilation or entrance, using ax, chisel, crowbar, electric saw, or core cutter. Selects hose nozzle, depending on type of fire, and directs stream of water or chemicals onto fire. Administers first aid and cardiopulmonary resuscitation to injured persons and those overcome by fire and smoke. Responds to fire alarms and other emergency calls. Sprays foam onto runway, extinguishes fire, and rescues aircraft crew and passengers in air-crash emergency. Inspects buildings for fire hazards and compliance with fire prevention ordinances. Participates in courses in hydraulics, pump operation, and firefighting techniques. Participates in fire drills and demonstrations of firefighting techniques. Maintains firefighting equipment and apparatus, vehicles, hydrants, and fire station. Drives and operates fire fighting vehicles and equipment. Establishes fire lines to prevent unauthorized persons from entering area. Assesses fire and situation, reports to superior, and receives instructions, using two-way radio.

### **33-2011. 02 Forest Fire Fighters Entry – Mid level position assuming education and experience prerequisite**

Fells trees, cuts and clears brush, and digs trenches, to contain fire, using ax, chain saw, or shovel. Packs parachutes. Parachutes from aircraft and guides direction of fall toward clear landing area near scene of fire. Orients self in relation to fire, using compass and map, and collects supplies and equipment dropped by parachute. Works as member of firefighting crew. Patrols burned area after fire to watch for hot spots that may restart fire. Ascertains best method for attacking fire, and communicates plan to airplane or base camp, using two-way radio. Extinguishes flames and embers to suppress fire, using shovel, or engine or hand-driven water or chemical pumps.



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### **33-2021. 01 Fire Inspectors Senior level position assuming education and experience prerequisite**

Inspects interiors and exteriors of buildings to detect hazardous conditions or violations of fire codes. Issues permits and summons, and enforces fire codes. Tests equipment, such as gasoline storage tanks, air compressors, and fire extinguishing and fire protection equipment to endure conformance to fire and safety codes. Discusses violations and unsafe conditions with facility representative, makes recommendations, and instructs in fire safety practices. Prepares reports, such as inspections performed, code violations, and recommendations for eliminating fire hazards. Gives First aid in emergencies. Collects fees for permits and licenses.

### **33-2022. 00 Forest Fire Inspectors and Prevention Specialists Senior level position assuming education and experience prerequisite**

Inspects forest tracts and logging areas for fire hazards, such as accumulated wastes, mishandling of combustibles, or defective exhaust systems. Locates forest fires on area map, using azimuth sighter and known landmarks. Relays messages relative to emergencies, accidents, location of crew and personnel, weather forecasts, and fire hazard conditions. Patrols and maintains surveillance, looking for forest fires, hazardous conditions, and weather phenomena. Inspects campsites to ensure camper compliance with forest use regulations. Estimates size and characteristics of fire and reports findings to base camp by radio or telephone. Gives directives and instructions regarding sanitation, fire prevention, violation corrections, and related forest regulations. Examines and inventories firefighting equipment, such as axes, fire hoses, shovels, pumps, buckets, and fire extinguishers to determine amount and condition. Gives directions to crew on fire line during forest fire. Extinguishes smaller fires with portable extinguisher, shovel, and ax. Maintains records and logbooks. Directs maintenance and repair of firefighting equipment and requisitions new equipment. Restricts public access and recreational use of forestlands during critical fire season. Observes instruments and reports meteorological data, such as temperature, relative humidity, wind direction and velocity, and types of cloud formations.

### **33-3011. 00 Bailiffs Entry – Mid level position assuming education and experience prerequisite**

Maintains order in courtroom during trial and guards jury from outside contact. Checks courtroom for security and cleanliness and assures availability of sundry supplies for use of judge. Provides jury escort to restaurant and other areas outside of courtroom to prevent jury contact with public. Reports need for police or medical assistance to sheriff's office. Guards lodging of sequestered jury. Enforces courtroom rules of behavior and warns persons not to smoke or disturb court procedure. Announces entrance of judge. Stops people from entering courtroom while judge charges jury. Collects and retains unauthorized firearms from persons entering courtroom.

### **33-3012. 00 Correctional Officers and Jailers Entry – Mid level position assuming education and experience prerequisite**

Monitors conduct of prisoners, according to established policies, regulations, and procedures, to prevent escape or violence. Records information, such as prisoner identification, charges, and incidences of inmate disturbance. Guards facility entrance to screen visitors. Serves meals and distributes commissary items to prisoners. Takes prisoner into custody and escorts to locations within and outside of facility, such as visiting room, courtroom, or airport. Inspects locks, window bars, grills, doors, and gates at correctional facility, to prevent escape. Uses weapons, handcuffs, and physical force to maintain discipline and order among prisoners. Searches prisoners, cells, and vehicles for weapons, valuables, or drugs.

### **33-3021. 05 Immigration and Customs Inspectors Mid – Senior level position assuming education and experience prerequisite**

Inspects cargo, baggage, personal articles, and common carriers entering or leaving U.S. for compliance with revenue laws and U. S. Customs Service regulations. Reviews private and public records and documents to establish, assemble, and verify facts and secure legal evidence. Interprets and explains laws and regulations to others. Institutes civil and criminal prosecutions and assists other governmental agencies with regulation violation issues. Issues or denies permits. Testifies in administrative and judicial proceedings. Collects samples of merchandise for examination, appraising, or testing and requests laboratory analyses. Determines duty and taxes to be paid, investigates applications for duty refunds, or petitions for remission or mitigation of penalties. Keeps records and writes reports of activities, findings, transactions, violations, discrepancies, and decisions. Examines, classifies, weighs, measures, and appraises merchandise to enforce regulations of U.S. Customs Service and prevent illegal importing and exporting. Determines investigative and seizure techniques to be used, and seizes contraband, undeclared merchandise, vehicles, and air or sea craft carrying smuggled merchandise. Arrests, detains, paroles, or arranges for deportation of persons in violation of customs or immigration laws. Examines visas and passports and interviews persons to determine eligibility for admission, residence, and travel in U.S.



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### **33-3031. 00 Fish and Game Wardens Entry – Mid – Senior level position assuming education and experience prerequisite**

Patrols assigned area by car, boat, airplane, horse, or on foot to observe persons engaged in taking fish and game. Addresses schools and civic groups to disseminate wildlife information and promote public relations. Photographs extent of damage, documents other evidence, estimates financial loss, and recommends compensation. Traps beavers, dynamites beaver dams, and tranquilizes animals to implement approved control measures. Assists in promoting hunter safety training. Recommends revisions or changes in hunting and trapping regulations or seasons, animal relocation and release to obtain balance of wildlife and habitat. Resurveys area and totals bag counts of hunters to determine effectiveness of control measures. Seizes equipment used in fish and game law violations and arranges for disposition of fish and game illegally taken or possessed. Serves warrants, makes arrests, and prepares and presents evidence in court actions. Searches area of reported property damage for animal tracks, leavings, and other evidence to identify specie of animal responsible. Collects and reports information on population and condition of fish and wildlife in their habitat, availability of game food and cover, and suspected pollution. Investigates hunting accidents and reports of fish and game law violations, issues warnings or citations, and files reports. Ensures method and equipment used are lawful and apprehends violators.

### **33-3041. 00 Parking Enforcement Officers Entry level position assuming education and experience prerequisite**

Chalks tires of vehicles, records time, and returns at specific intervals. Collects coins deposited in meters. Writes violation tickets for illegally parked vehicles. Prepares required forms and records. Reports missing traffic signals or signs to superior at end of shift. Winds parking meter clocks.

### **33-3051. 01 Police Patrol Officers Entry – Mid level position assuming education and experience prerequisite**

Patrols specific area on foot, horseback, or motorized conveyance. Relays complaint and emergency-request information to appropriate agency dispatcher. Provides road information to assist motorists. Investigates traffic accidents and other accidents to determine causes and to determine if crime has been committed. Evaluates complaint and emergency-request information to determine response requirements. Reviews facts to determine if criminal act or statute violation is involved. Directs traffic flow and reroutes traffic in case of emergencies. Monitors traffic to ensure motorists observe traffic regulations and exhibit safe driving procedures. Arrests perpetrator of criminal act or submits citation or warning to violator of motor vehicle ordinance. Draws diagram of crime or accident scene. Photographs crime or accident scene. Interviews principal and eyewitnesses. Renders aid to accident victims and other persons requiring first aid for physical injuries. Records facts and prepares reports to document activities. Testifies in court to present evidence or act as witness in traffic and criminal cases. Expedites processing of prisoners, and prepares and maintains records of prisoner bookings and prisoner status during booking and pre-trial process. Maintains order, responds to emergencies, protects people and property, and enforces motor vehicle and criminal law.

### **33-3052. 00 Transit and Railroad Police Entry – Mid level position assuming education and experience prerequisite**

Directs security activities at derailments, fires, floods, and strikes involving railroad property. Prepares reports documenting the results and activities concerned with investigations. Plans and implements special safety and preventive programs, such as fire and accident prevention. Seals empty boxcars by twisting nails in door hasps, using nail twister. Directs and coordinates the daily activities and training of security staff. Records and verifies seal numbers from boxcars containing high pilferage items, such as cigarettes and liquor, to detect tampering. Interviews neighbors, associates, and former employers of job applicants to verify personal references and obtain work history data. Examines credentials of unauthorized persons attempting to enter secured areas. Guards, patrols, and polices railroad yards, cars, stations, and other facilities to protect company property and shipments and to maintain order. Investigates or directs investigations of freight theft, suspicious damage or loss of passenger's valuables, and other crimes on railroad property. Apprehends or coordinates with local enforcement personnel to apprehend or remove trespassers or thieves from rail property.

### **33-9011. 00 Animal Control Workers Entry – Mid level position assuming education and experience prerequisite**

Captures or removes stray, uncontrolled, or abused animals from undesirable conditions and transports to shelter. Trains police officers in dog handling and training techniques for tracking, crowd control, and narcotics and bomb detection. Examines animals for injuries or malnutrition and arranges for medical treatment. Investigates animal bites and alleged violations, interviews witnesses, and reports violations to police or requests arrest of violators. Removes animals from vehicle and places animal in shelter cage or other enclosure. Examines animal licenses and inspects establishments housing animals for compliance with laws, and issues warnings or summonses to violators. Writes reports of activities, and maintains files of impoundment and disposition of animals. Supplies animals with food, water, and personal care. Euthanizes rabid, unclaimed, or severely injured animals. Conducts tours of facility, demonstrates dog handling



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techniques, and explains use of dogs in police work, using trained dog. Instructs handlers in dog health care and handler's responsibilities.

### **33-9031. 00 Gaming Surveillance Officers and Gaming Investigators Mid – Senior level position assuming education and experience prerequisite**

Act as oversight and security agent for management and customers. Observe casino or casino hotel operation for irregular activities such as cheating or theft by either employees or patrons. May utilize one-way mirrors above the casino floor, cashier's cage, and from desk. Use of audio/video equipment is also common to observe operation of business. Usually required to provide verbal and written reports of all violations and suspicious behavior to supervisor.

### **33-9032. 00 Security Guards Entry – Mid level position assuming education and experience prerequisite**

Patrols industrial and commercial premises to prevent and detect signs of intrusion and ensure security of doors, windows, and gates. Warns persons of rule infractions or violations, and apprehends or evicts violators from premises, using force when necessary. Calls police or fire departments in cases of emergency, such as fire or presence of unauthorized persons. Operates detecting devices to screen individuals and prevent passage of prohibited articles into restricted areas. Answers telephone calls to take messages, answer questions, and provide information during non-business hours or when switchboard is closed. Escorts or drives motor vehicle to transport individuals to specified location and to provide personal protection. Circulates among visitors, patrons, and employees to preserve order and protect property. Answers alarms and investigates disturbances. Monitors and authorizes entrance and departure of employees, visitors, and other persons to guard against theft and maintain security of premises. Inspects and adjusts security systems, equipment, and machinery to ensure operational use and to detect evidence of tampering.

### **33-9091. 00 Crossing Guards Entry level position assuming education and experience prerequisite**

Directs actions of pedestrians and traffic at intersections. Activates warning signal lights, lowers crossing gates until train passes, and raises gate when crossing is clear. Distributes traffic control and caution signs and markers at designated points. Directs movement of traffic through site, using signs, flags, and hand signals. Escorts pedestrians across street. Waves flags, signs, or lanterns in emergencies. Discusses traffic routing plans, and type and location of control points with superior.

Informs drivers of detour routes through construction sites. Records license numbers of vehicles disregarding traffic signals and reports infractions to police.

### **33-9092. 00 Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers Entry level position assuming education and experience prerequisite**

Patrols or monitors recreational areas, such as trails, slopes, and swimming areas, on foot, in vehicle, or from tower. Observes activities in assigned area with binoculars to detect hazards, disturbances, or safety infractions. Contacts emergency medical services in case of serious injury. Rescues distressed persons, using rescue techniques and equipment. Cautions recreational participant regarding inclement weather, unsafe areas, or illegal conduct. Examines injured persons and administers first aid or cardiopulmonary resuscitation, utilizing training and medical supplies and equipment. Inspects recreational equipment, such as rope tows, T-bar, J-bar, and chair lifts, for safety hazards and damage or wear. Inspects facilities for cleanliness and maintains order in recreational areas. Participates in recreational demonstrations to entertain resort guests. Instructs participants in skiing, swimming, or other recreational activity. Maintains information on emergency medical treatment and weather and beach conditions, using report forms.

### **35-2012. 00 Cooks, Institution and Cafeteria Entry – Mid level position assuming education and experience prerequisite**

Cooks foodstuffs according to menu, special dietary or nutritional restrictions, and number of persons to be served. Cleans, cuts, and cooks meat, fish, and poultry. Requisitions food supplies, kitchen equipment and appliances, and other supplies and receives deliveries. Apportions and serves food to residents, employees, or patrons. Washes pots, pans, dishes, utensils, and other cooking equipment. Directs activities of one or more workers who assist in preparing and serving meals. Compiles and maintains food cost records and accounts. Plans menus, taking advantage of foods in season and local availability. Bakes breads, rolls, and other pastries. Prepares and cooks vegetables, salads, dressings, and desserts. Cleans and inspects galley equipment, kitchen appliances, and work areas for cleanliness and functional operation.

### **35-2014. 00 Cooks, Restaurant Entry – Mid level position assuming education and experience prerequisite**

Weighs, measures, and mixes ingredients according to recipe or personal judgment, using various kitchen utensils and equipment. Seasons and cooks food according to recipes or personal judgment and experience. Regulates temperature of ovens, broilers, grills, and roasters. Observes and tests food to determine that it is cooked, by tasting,



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smelling, or piercing, and turns or stirs food if necessary. Bakes, roasts, broils, and steams meats, fish, vegetables, and other foods. Bakes bread, rolls, cakes, and pastry. Washes, peels, cuts, and seeds fruits and vegetables to prepare fruits and vegetables for use. Inspects food preparation and serving areas to ensure observance of safe, sanitary food-handling practices. Estimates food consumption and requisitions or purchases supplies, or procures food from storage. Butchers and dresses animals, fowl or shellfish, or cuts and bones meat prior to cooking. Carves and trims meats, such as beef, veal, ham, pork, and lamb for hot or cold service, or for sandwiches. Plans items on menu. Portions, arranges, and garnishes food, and serves food to waiter or patron.

### **35-2021. 00 Food Preparation Workers Entry – Mid level position assuming education and experience prerequisite**

Cleans and portions, and cuts or peels various foods to prepare for cooking or serving. Cleans, cuts, slices, or disjoints meats and poultry to prepare for cooking. Prepares and serves variety of beverages, such as coffee, tea, and soft drinks. Portions and arranges food on serving dishes, trays, carts, or conveyor belts. Prepares variety of foods according to customers' orders or instructions of superior, following approved procedures. Carries food supplies, equipment, and utensils to and from storage and work areas. Distributes food to waiters and waitresses to serve to customers. Stores food in designated containers and storage areas to prevent spoilage. Butchers and cleans fowl, fish, poultry, and shellfish to prepare for cooking or serving. Requisitions, stores, and distributes food supplies, equipment, and utensils. Cleans and maintains work areas, equipment, and utensils.

### **35-3011. 00 Bartenders Entry – Mid level position assuming education and experience prerequisite**

Mixes ingredients, such as liquor, soda, water, sugar, and bitters, to prepare cocktails and other drinks. Collects money for drinks served. Serves wine and draft or bottled beer. Arranges bottles and glasses to make attractive display. Orders or requisitions liquors and supplies. Prepares appetizers, such as pickles, cheese, and cold meats. Cleans glasses, utensils, and bar equipment. Slices and pits fruit for garnishing drinks.

### **35-3021. 00 Combined Food Preparation and Serving Workers, Including Fast Food Entry – Mid level position assuming education and experience prerequisite**

Selects food items from serving or storage areas and places food and beverage items on serving tray or in takeout bag. Cooks or re-heats food items, such as french-fries. Receives payment. Notifies kitchen personnel of shortages or special orders. Requests and records customer order and computes bill. Makes and serves hot and cold beverages or desserts.

### **35-3022. 00 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop Entry – Mid level position assuming education and experience prerequisite**

Serves food, beverages, or desserts to customers in variety of settings, such as take out counter of restaurant or lunchroom. Calls order to kitchen and picks up and serves order when it is ready. Replenishes foods at serving stations. Brews coffee and tea and fills containers with requested beverages. Accepts payment for food, using cash register or adding machine to total check. Carves meat. Scrubs and polishes counters, steam tables, and other equipment, and cleans glasses, dishes, and fountain equipment and polishes metalwork on fountain. Adds relishes and garnishes according to instructions. Orders items to replace stocks. Prepares sandwiches, salads, and other short order items. Wraps menu items, such as sandwiches, hot entrees, and desserts. Serves sandwiches, salads, beverages, desserts, and candies to employees in industrial establishment. Writes items ordered on tickets, totals orders, passes orders to cook, and gives ticket stubs to customers to identify filled orders. Serves salads, vegetables, meat, breads, and cocktails, ladles soups and sauces, portions desserts, and fills beverage cups and glasses. Prepares and serves soft drinks and ice cream dishes, such as sundaes, using memorized formulas and methods of following directions.

### **35-3031. 00 Waiters and Waitresses Entry – Mid level position assuming education and experience prerequisite**

Takes order from patron for food or beverage, writing order down or memorizing it. Serves meals or beverages to patrons. Relays order to kitchen, or enters order into computer. Observes patrons to respond to additional requests, and to determine when meal has been completed or beverage consumed. Obtains and replenishes supplies of food, tableware, and linen. Computes cost of meal or beverage. Removes dishes and glasses from table or counter and takes them to kitchen for cleaning. Accepts payment and returns change, or refers patron to Cashier. Fills salt, pepper, sugar, cream, condiment, and napkin containers. Prepares salads, appetizers, and cold dishes, portions desserts, brews coffee, and performs other services as determined by establishment's size and practices. Carves meats, bones fish and fowl, and prepares special dishes and desserts at workstation or patron's table. Cleans and arranges assigned station, including side stands, chairs, and table pieces, such as linen, silverware, and glassware. Garnishes and decorates dishes preparatory to serving. Prepares hot, cold, and mixed drinks for patrons, and chills bottles of wine. Serves, or assists





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patrons to serve themselves, at buffet or smorgasbord table. Presents menu to patron, suggests food or beverage selections, and answers questions regarding preparation and service.

### **35-3041. 00 Food Servers, Non-restaurant Entry – Mid level position assuming education and experience prerequisite**

Prepares and delivers food trays. Examines filled tray for completeness. Takes order and relays order to kitchen or serving counter to be filled. Apportions and places food servings on plates and trays according to order or instructions. Carries silverware, linen, and food on tray or uses cart. Removes tray and stacks dishes for return to kitchen. Prepares food items, such as sandwiches, salads, soups, and beverages, and places items, such as eating utensils, napkins, and condiments, on trays. Records amount and types of special food items served to customers. Prepares fountain drinks, such as sodas, milkshakes, and malted milks. Washes dishes and cleans work area, tables, cabinets, and ovens; and sweeps service area with broom. Restocks service counter with items, such as ice, napkins, and straws. Totals and presents check to customer and accepts payment for service. Reads orders to determine items to place on food tray. Pushes carts to rooms and swerves trays to patients or guests.

### **35-9011. 00 Dining Room and Cafeteria Attendants and Bartender Helpers Entry level position assuming education and experience prerequisite**

Carries dirty dishes to kitchen and wipes tables and seats with dampened cloth. Replenishes food and equipment at steam tables and serving counters of cafeteria to facilitate service to patrons. Cleans bar and equipment, and replenishes bar supplies, such as liquor, fruit, ice, and dishes. Sets tables with clean linens, sugar bowls, and condiments. Mixes and prepares flavors for mixed drinks. Garnishes and positions foods on table to ensure visibility to patrons and convenience in serving. Circulates among diners and serves coffee. Washes glasses, bar, and equipment, polishes bar fixtures, mops floors, and removes empty bottles and trash. Stocks refrigerating units with wines and bottled beer, replaces empty beer kegs, and slices and pits fruit used to garnish drinks. Keeps assigned area and equipment clean, makes coffee, fills fruit juice dispensers, and stocks vending machines with food in automat. Carries trays from food counters to tables for cafeteria patrons and serves ice water and butter to patrons. Replenishes supply of clean linens, silverware, glassware, and dishes in dining room. Carries food, dishes, trays, and silverware from kitchen and supply departments to serving counters.

### **35-9021. 00 Dishwashers Entry level position assuming education and experience prerequisite**

Cleans and maintains work areas, equipment, and utensils. Carries or transfers by hand truck supplies and equipment between storage and work areas. Removes garbage and trash and places refuse in designated pick up area. Stocks serving stations with food and utensils. Loads or unloads trucks used in delivering or picking up food and supplies. Sets up banquet tables. Cleans and prepares various foods for cooking or serving. Prepares and packages individual place settings.

### **37-2011. 00 Janitors and Cleaners, Except Maids and Housekeeping Cleaners Entry level position assuming education and experience prerequisite**

Sweeps, mops, scrubs, and vacuums floors of buildings, using cleaning solutions, tools and equipment. Gathers and empties trash. Cleans or polishes walls, ceilings, windows, plant equipment and building fixtures, using steam cleaning equipment, scrapers, brooms and variety of hand and power tools. Applies waxes or sealers to wood or concrete floors. Tends, cleans, adjusts and services furnaces, air conditioners, boilers and other building heating and cooling systems. Removes snow from sidewalks, driveways, and parking areas, using snowplow, snow blower, and snow shovel, and spreads snow melting chemicals. Notifies management personnel concerning need for major repairs or additions to building operating systems. Sprays insecticides and fumigants to prevent insect and rodent infestation. Cleans laboratory equipment, such as glassware and metal instruments, using solvents, brushes, rags, and power cleaning equipment. Mows and trims lawns and shrubbery, using mowers and hand and power trimmers, and clears debris from grounds. Mixes water and detergents or acids in container to prepare cleaning solutions, according to specifications. Drives vehicles, such as van, industrial truck or industrial vacuum cleaner. Cleans chimneys, flues, and connecting pipes, using power and hand tools. Cleans and restores building interiors damaged by fire, smoke, or water, using commercial cleaning equipment. Services and repairs cleaning and maintenance equipment and machinery and performs minor routine painting, plumbing, electrical, and related activities. Moves items between departments, manually or using hand truck. Sets up, arranges, and removes decorations, tables, chairs, ladders, and scaffolding, for events such as banquets and social functions. Requisitions supplies and equipment used in cleaning and maintenance duties. Dusts furniture, walls, machines, and equipment.

### **37-2012. 00 Maids and Housekeeping Cleaners Entry – Mid level position assuming education and experience prerequisite**



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Cleans rooms, hallways, lobbies, lounges, restrooms, corridors, elevators, stairways, and locker rooms and other work areas. Cleans rugs, carpets, upholstered furniture, and draperies, using vacuum cleaner. Dusts furniture and equipment. Empties wastebaskets, and empties and cleans ashtrays. Collects soiled linens for laundering, and receives and stores linen supplies in linen closet. Washes walls, ceiling, and woodwork. Polishes metalwork, such as fixtures and fittings. Prepares sample rooms for sales meetings. Cleans and removes debris from driveway and garage areas. Arranges decorations, apparatus, or furniture for banquets and social functions. Replaces light bulbs. Washes beds and mattresses, and remakes beds after dismissal of hospital patients. Moves and arranges furniture, turns mattresses, hangs draperies, dusts venetian blinds, and polishes metalwork to ready hotel facilities for occupancy. Replenishes supplies, such as drinking glasses, writing supplies, and bathroom items. Transports trash and waste to disposal area. Cleans swimming pool with vacuum. Delivers television sets, ironing boards, baby cribs, and rollaway beds to guest's rooms. Washes windows, door panels, and sills. Sweeps, scrubs, waxes, and polishes floors, using brooms and mops and powered scrubbing and waxing machines.

### **37-2021. 00 Pest Control Workers Entry – Mid level position assuming education and experience prerequisite**

Sprays or dusts chemical solutions, powders, or gases into rooms, onto clothing, furnishings or wood, and over marshlands, ditches, catch-basins. Sets mechanical traps and places poisonous paste or bait in sewers, burrows, and ditches. Cuts or bores openings in building or surrounding concrete, accesses infested areas, inserts nozzle, and injects pesticide to impregnate ground. Directs and/or assists other workers in treatment and extermination processes to eliminate and control rodents, insects, and weeds. Studies preliminary reports and diagrams of infested area and determines treatment type required to eliminate and prevent recurrence of infestation. Digs up and burns or sprays weeds with herbicides. Cleans work site after completion of job. Records work activities performed. Drives truck equipped with power spraying equipment. Posts warning signs and locks building doors to secure area to be fumigated. Positions and fastens edges of tarpaulins over building and tapes vents to ensure air-tight environment and checks for leaks. Cleans and removes blockages from infested areas to facilitate spraying procedure and provide drainage, using broom, mop, shovel, and rake. Measures area dimensions requiring treatment, using rule, calculates fumigant requirements, and estimates cost for service. Inspects premises to identify infestation source and extent of damage to property, wall, and roof porosity, and access to infested locations.

### **37-3011. 00 Landscaping and Groundskeeping Workers Entry – Mid level position assuming education and experience prerequisite**

Mows lawns, using power mower. Digs holes for plants, mixes fertilizer or lime with dirt in holes, inserts plants, and fills holes with dirt. Trims and picks flowers and cleans flowerbeds. Hauls or spreads topsoil, and spreads straw over seeded soil to hold soil in place. Decorates garden with stones and plants. Attaches wires from planted trees to support stakes. Maintains tools and equipment. Seeds and fertilizes lawns. Shovels snow from walks and driveways. Builds forms and mixes and pours cement to form garden borders. Applies herbicides, fungicides, fertilizers, and pesticides, using spreaders or spray equipment. Waters lawns, trees, and plants, using portable sprinkler system, hose, or watering can.

### **37-3012. 00 Pesticide Handlers, Sprayers, and Applicators, Vegetation Entry – Mid level position assuming education and experience prerequisite**

Lifts, pushes, and swings nozzle, hose, and tube to direct spray over designated area. Covers area to specified depth, applying knowledge of weather conditions, droplet size, elevation-to- distance ratio, and obstructions. Fills sprayer tank with water and chemicals, according to formula. Starts motor and engages machinery, such as sprayer agitator and pump. Cleans and services machinery to ensure operating efficiency, using water, gasoline, lubricants, and hand tools. Plants grass with seed spreader and operates straw blower to cover seeded area with asphalt and straw mixture. Sprays livestock with pesticides. Gives driving instructions to truck driver, using hand and horn signals, to ensure complete coverage of designated area. Connects hoses and nozzles, selected according to terrain, distribution pattern requirements, type of infestation, and velocity.

### **37-3013. 00 Tree Trimmers and Pruners Entry – Mid – Senior level position assuming education and experience prerequisite**

Cuts away dead and excess branches from trees, using handsaws, pruning hooks, sheers, and clippers. Applies tar or other protective substances to cut surfaces to seal surfaces against insects. Scrapes decayed matter from cavities in trees and fills holes with cement to promote healing and to prevent further deterioration. Uses truck-mounted hydraulic lifts and pruners and power pruners. Prunes, cuts down, fertilizes, and sprays trees as directed by tree surgeon. Climbs trees, using climbing hooks and belts, or climbs ladders to gain access to work area.

### **39-2011. 00 Animal Trainers Entry – Mid level position assuming education and experience prerequisite**



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Trains animals to protect property, compete in shows or races, obey commands, or perform tricks to entertain audience. Evaluates animal to determine temperament, ability, and aptitude for training. Trains guard dog to protect property and teaches guide dog its master to function as team. Cues or signals animal during performance. Arranges for mating of stallions and mares, and assists mares during foaling. Feeds, exercises, and gives general care to animal. Observes animal's physical condition to detect illness or unhealthy condition requiring medical care. Trains horses as independent operator and advises owners regarding purchase of horses. Rehearses animal according to script for motion picture or television film or stage or circus program. Conducts training program to develop desired behavior. Trains horses for riding, show, work, or racing.

### **39-2021. 00 Non-farm Animal Caretakers Entry – Mid level position assuming education and experience prerequisite**

Feeds and waters animal according to schedules and feeding instructions. Repairs fences, cages or pens. Installs equipment in animal care facility, such as infrared lights, feeding devices, or cribs. Observes and cautions children petting and feeding animals in designated area. Responds to questions from patrons and provides information about animals, such as behavior, habitat, breeding habits, or facility activities. Saddles and shoes animals. Orders, unloads, and stores feed and supplies. Records information about animals, such as weight, size, physical condition, diet, medications, and food intake. Transfers animals between enclosures for breeding, birthing, shipping, or rearranging exhibits. Anesthetizes and inoculates animals, according to instructions. Cleans and disinfects animal quarters, such as pens, stables, cages, and yards, and surgical or other equipment, such as saddles and bridles. Washes, brushes, clips, trims, and grooms animals. Exercises animals to maintain their fitness and health, or trains animals to perform certain tasks. Adjusts controls to regulate specified temperature and humidity of animal quarters, nursery, or exhibit area. Mixes food, liquid formulas, medications, or food supplements according to instructions, prescriptions, and knowledge of animal species. Examines and observes animals for signs of illness, disease, or injury and provides treatment or informs veterinarian.

### **39-3031. 00 Ushers, Lobby Attendants, and Ticket Takers Entry level position assuming education and experience prerequisite**

Collects admission tickets and passes from patrons at entertainment events. Refuses admittance to patrons without ticket or pass, or who are undesirable for reasons, such as intoxication or improper attire. Greets patrons desiring to attend entertainment events. Distributes programs to patrons, or door checks to patrons temporarily leaving establishment. Assists other workers to change advertising display. Runs errand for patrons of press box, such as obtaining refreshments and carrying news releases. Serves patrons at refreshment stand during intermission. Monitors patrons' activities to prevent disorderly conduct and rowdiness and to detect infractions of rules. Counts and records number of tickets collected. Examines ticket or pass to verify authenticity, using criteria such as color and date issued. Assists patrons to find seats, search for lost articles, and locate facilities, such as restrooms and telephones. Verifies credentials of patrons desiring entrance into press box and permits only authorized persons to enter.

### **39-3091. 00 Amusement and Recreation Attendants Entry – Mid level position assuming education and experience prerequisite**

Schedules use of recreation facilities, such as golf courses, tennis courts, bowling alleys, and softball diamonds. Receives, retrieves, replaces, and stores sports equipment and supplies, arranges items in designated areas, and erects or removes equipment. Assists patrons on and off amusement rides, boats, or ski lifts, and in mounting and riding animals, and fastens or directs patrons to fasten safety devices. Provides information about facilities, entertainment options, and rules and regulations. Inspects, repairs, adjusts, tests, fuels, and oils sporting and recreation equipment, game machines, and amusement rides. Cleans sporting equipment, vehicles, rides, booths, facilities, and grounds. Attends amusement booth in parks, carnivals, or stadiums and awards prizes to winning players. Sells and serves refreshments to customers. Announces and describes amusement park attractions to patrons to entice customers to games and other entertainment. Provides entertainment services, such as guessing patron's weight, conducting games, or explaining use of arcade game machines, and photographing patrons. Launches, moors, and shows demonstrates use of boats, such as rowboats, canoes, and motorboats, or caddies for golfers. Monitors activities to ensure adherence to rules and safety procedures to protect environment and maintain order, and ejects unruly patrons. Attends animals, performing such tasks as harnessing, saddling, feeding, watering, and grooming, and drives horse-drawn vehicle for entertainment or advertising purposes. Records details of attendance, sales, receipts, reservations, and repair activities. Directs patrons of establishment to rides, seats, or attractions, or escorts patrons on tours of points of interest. Operates, drives, or explains use of mechanical riding devices or other automatic equipment in amusement parks, carnivals, or recreation areas. Rents, sells, and issues sports equipment and supplies, such as bowling shoes, golf balls, swimming suits, and beach chairs. Sells tickets and collects fees from customers, and collects or punches tickets.



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### **39-3093. 00 Locker Room, Coatroom, and Dressing Room Attendants Entry level position assuming education and experience prerequisite**

Explains nature and cost of services and facilities available, demonstrates use of equipment, and answers customer inquiries. Cleans and polishes footwear, using brush, sponge, cleaning fluid, polish, wax, liquid or sole dressing, and dauber. Arranges, supervises, and provides valet services such as clothes pressing, shoe shining, sending and receiving mail, and car parking. Performs general cleaning and maintenance of facilities and equipment, using mop, broom, lawn mower, and other cleaning aids. Secures boat to dock, using mooring lines, connects utility lines to boat, and pumps water from boat for patrons. Sells service related products and collects fees for services, rent, products, or supplies. Records and reviews client's activities to assure program is followed. Transports customers and baggage, using motor vehicle. Assists persons in establishments such as apartments, hotels, or hospitals, by opening doors, carrying bags, and performing related services. Stores personal possessions for patrons, issues a claim check for articles stored, and returns articles on receipt of check. Issues keys, athletic equipment, or supplies, such as soap, towels, and weight loss aids. Inspects building and grounds, and reports or removes unauthorized or undesirable persons. Schedules appointments for client sessions, registers guests, and assigns accommodations. Interviews, evaluates, and advises client to develop personal improvement plan, such as weight loss, using scales, measures, and recommended guidelines. Conducts body conditioning therapy such as steam or electric shock, using physical or visual stimuli. Assists customer in tub or steam room, bathes or massages them, using water, brush, mitt, sponge, and towel, to clean skin. Packs equipment and uniforms and attends to needs of individual athletes in clubhouse.

### **39-6012. 00 Concierges Mid – Senior level position assuming education and experience prerequisite**

Assist patrons at hotel, apartment or office building with personal services. May take messages, arrange or give advice on transportation, business or entertainment, or monitor guest requests for housekeeping and maintenance.

### **39-6032. 00 Transportation Attendants, Except Flight Attendants and Baggage Porters Entry level position assuming education and experience prerequisite**

Greets passengers boarding mode of transportation and announces stops. Responds to passengers' questions, requests, or complaints. Mails letters or arranges for dispatch of telegrams to assist passengers. Carries baggage to assigned rooms or to station platform. Cleans rooms and bathroom facilities, changes linens, and replenishes supplies to washroom. Inspects kitchen and dining area to ensure adherence to sanitation requirements. Signals transportation operator to stop or proceed, opens and closes doors, and establishes order among passengers. Counts and verifies tickets and seat reservations, and records number of passengers boarding and leaving mode of transportation. Issues and collects passenger boarding passes and transfers and tears or punches tickets to prevent reuse. Distributes sports and game equipment, magazines, newspapers, pillows, blankets, and other items to passengers and guests. Demonstrates safety procedures. Provides seating arrangements, and straightens and adjusts window shades and seat cushions to accommodate requests of passengers. Serves snacks, lunch, and refreshments.

### **39-9011. 00 Child Care Workers Entry – Mid level position assuming education and experience prerequisite**

Cares for children in institutional setting, such as group homes, nursery schools, private businesses, or schools for the handicapped. Disciplines children and recommends or initiates other measures to control behavior, such as caring for own clothing and picking up toys and books. Assists in preparing food for children and serves meals and refreshments to children and regulates rest periods. Wheels handicapped children to classes or other areas of facility, secure in equipment, such as chairs and slings. Monitors children on life-support equipment to detect malfunctioning of equipment and calls for medical assistance when needed. Instructs children regarding desirable health and personal habits, such as eating, resting, and toilet habits. Places or hoists children into baths or pools. Organizes and participates in recreational activities, such as games. Reads to children, and teaches them simple painting, drawing, handwork, and songs.

### **43-5021. 00 Couriers and Messengers Entry – Mid level position assuming education and experience prerequisite**

Delivers messages and items, such as documents, packages, and food, between establishment departments, and to other establishments and private homes. Records information, such as items received and delivered, and recipient's replies to message. Monitors fluid levels and replenishes fuel to maintain delivery vehicle. Obtains signature, receipt, or payment from recipient for articles delivered. Calls by telephone to deliver verbal messages. Receives message or materials to be delivered, and information on recipient, such as name, address, and telephone number. Walks, rides bicycle, drives vehicle, or uses public conveyance to reach destination to deliver message or materials, in person.

### **43-5041. 00 Meter Readers, Utilities Entry – Mid level position assuming education and experience prerequisite**

Walks or drives truck over established route and takes readings of meter dials. Reads steam meter. Indicates irregularities on forms for necessary action by service department. Returns route book to business office for billing purposes. Verifies readings to locate abnormal consumption and records reasons for fluctuations. Turns service off for



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nonpayment of charges in vacant premises, or on for new occupants. Inspects meters for defects, damage, and unauthorized connections. Collects bills in arrears. Reads water meter. Reads gas meter. Reads electric meter.

### **43-5052. 00 Postal Service Mail Carriers Entry – Mid level position assuming education and experience prerequisite**

Inserts mail into slots of mail rack to sort mail for delivery. Delivers mail to residences and business establishments along route. Completes delivery forms, collects charges, and obtains signature on receipts for delivery of specified types of mail. Drives vehicle over established route. Sells stamps and issues money orders. Picks up outgoing mail. Enters changes of address in route book and re-addresses mail to be forwarded.

### **45-2021. 00 Animal Breeders Mid – Senior level position assuming education and experience prerequisite**

Selects animals to be bred, according to knowledge of animals, genealogy, traits, and offspring desired. Records weight, diet, and other breeding data. Examines animals to detect symptoms of illness or injury. Feeds and waters animals, and cleans, pens, cages, yards, and hutches. Treats minor injuries and ailments and engages veterinarian to treat animals with serious illnesses or injuries. Clips or shears hair on animals. Arranges for sale of animals to hospitals, research centers, pet shops, and food processing plants. Adjusts controls to maintain specific temperature in building. Kills animals, removes their pelts, and arranges for sale of pelts. Exhibits animals at shows. Builds and maintains hutches, pens, and fenced yards. Milks cows and goats. Brands, tags, dehornes, tattoos, or castrates animals.

### **45-2041. 00 Graders and Sorters, Agricultural Products Entry – Mid level position assuming education and experience prerequisite**

Grades and sorts products, according to factors, such as color, length, width, appearance, feel, and smell. Weighs and places products in containers, according to grade and marks grade on containers. Segregates products on conveyor belt or table, according to grade, color, size, fiber quality, species, deformities, and sex. Estimates weight of product visually and by feel. Examines product fibers through microscope to determine maturity and spirality of fibers. Discards inferior or defective products and foreign matter and places acceptable products in containers for further processing. Pulls product sample apart between fingers to determine fiber quality. Records grade on tag or shipping, receiving, or sales sheet.

### **45-2091. 00 Agricultural Equipment Operators Entry – Mid level position assuming education and experience prerequisite**

Drives tractor with implements to plow, plant, cultivate, or harvest crops and to move trailers for crop harvest. Manipulates controls to set, activate, and regulate mechanisms on machinery such as self-propelled machines, conveyors, separators, cleaners, and dryers. Drives truck, or tractor with trailer attached, alongside crew loading crop or adjacent to harvesting machine. Observes and listens to machinery operation to detect equipment malfunction, and removes obstruction to avoid damage to product or machinery. Discards diseased or rotting product, and guides product on conveyor to regulate flow through machine. Attaches farm implements, such as plow, disc, sprayer, or harvester, to tractor, using bolts and mechanic's hand tools. Weighs crop-filled containers and records weights and other identifying information. Loads and unloads crops or containers of materials, manually or using conveyors, hand truck, forklift, or transfer auger. Mixes specified materials or chemicals and dumps solutions, powders, or seeds into planter or sprayer machinery. Irrigates soil, using portable pipe or ditch system, and maintains ditch or pipe and pumps. Walks beside or rides on planting machine while inserting plants in planter mechanism at specified intervals. Adjusts, repairs, lubricates, and services farm machinery, and notifies supervisor or appropriate personnel when machinery malfunctions. Loads hoppers, containers, or conveyor to feed machine with products, using suction gates, shovel, or pitchfork. Thins, hoes, weeds, or prunes row crops, fruit trees, or vines, using hand implements. Oversees work crew engaged in planting, weeding, or harvesting activities. Hand picks fruit, such as apples, oranges, or strawberries. Positions boxes or attaches bags at discharge end of machinery to catch products, places lids on boxes, and closes sacks. Sprays fertilizer or pesticide solutions, using hand sprayer, to control insects, fungus and weed growth, and diseases. Drives truck to haul harvested crops, supplies, tools, or farm workers.

### **45-2092. 01 Nursery Workers Entry – Mid level position assuming education and experience prerequisite**

Hauls and spreads topsoil, fertilizer, peat moss, and other materials to condition soil, using wheelbarrow or cart and shovel. Sows grass seed or plants plugs of grass and cuts, rolls, and stacks sod. Fills growing tanks with water. Moves containerized shrubs, plants, and trees, using wheelbarrow. Ties, bunches, wraps roots, and packs flowers, plants, shrubs, and trees to fill orders. Dips rose cuttings into vat to disinfect prior to storage. Folds and staples corrugated forms to make boxes used for packing horticultural products. Traps and destroys pests, such as moles, gophers, and mice, using pesticides. Cuts and opens incision in rootstock, using budding knife, and inserts and ties bud. Plants,



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sprays, weeds, and waters plants, shrubs, and trees, using hand tools and gardening tools. Digs, rakes, and screens soil and fills cold frames and hot beds to prepare them for planting. Inspects bud tie to ensure quality.

### **45-2092. 02 General Farm Workers Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates tractors, tractor-drawn machinery, and self-propelled machinery to plow, harrow and fertilize soil, and plant, cultivate, spray, and harvest crops. Oversees casual and seasonal help during planting and harvesting. Repairs and maintains farm vehicles, implements, and mechanical equipment. Administers simple medications to animals and fowls. Cleans barns, stables, pens, and kennels. Loads agricultural products into trucks for transport. Digs and transplants seedlings by hand. Repairs farm buildings, fences, and other structures. Sets up and operates irrigation equipment. Operates truck to haul livestock and products to market. Clears and maintains irrigation ditches. Harvests fruits and vegetables by hand. Feeds, waters, grooms, and otherwise cares for livestock and poultry.

### **45-2093. 00 Farm Workers, Farm and Ranch Animals Entry – Mid – Senior level position assuming education and experience prerequisite**

Waters livestock. Castrates or docks ears and tails of animals. Assists with birthing of animals. Fills feed troughs with feed. Debeaks and trims wings of poultry. Maintains equipment and machinery. Segregates animals according to weight, age, color, and physical condition. Grooms, clips, and trims animals. Moves equipment, poultry, or livestock manually or using truck or cart from one location to another. Inspects and repairs fences, stalls, and pens. Maintains growth, feeding, production, and cost records. Mixes feed, additives, and medicines in prescribed portions. Collects, inspects, packs or places eggs in incubator. Milks farm animals, such as cows and goats, by hand or using milking machine. Marks livestock to identify ownership, and grade, using brands, tags, paint, or tattoos. Cleans stalls, pens, and equipment, using disinfectant solutions, brushes, shovels and water hoses. Examines animals to detect disease and injuries. Applies or administers medications and vaccinates animals. Sprays livestock with disinfectants and insecticides. Herds livestock to pasture for grazing, or to scales, trucks, or other enclosures.

### **45-3011. 00 Fishers and Related Fishing Workers Entry – Mid level position assuming education and experience prerequisite**

Cultivates and harvests or gathers marine life, such as sponges, abalone, or oysters, from sea bottom, using diving or dredging equipment or barge. Negotiates with buyers for sale of catch. Lubricates, adjusts, and makes minor repairs to engines and fishing equipment.

Washes deck, conveyors, knives, and other equipment, using brush, detergent, and water. Records date, harvest area, and yield in logbook. Rows boats and dinghies and operates skiffs to transport fishers, divers, and sponge hookers and to tow and position fishing equipment. Steers vessel in fishing area. Places catch in containers and stows in hold with salt and ice.

Signals other workers to move, hoist, and position loads. Sorts and cleans marine life, and returns undesirable or illegal catch to sea. Stands lookout for schools of fish and for steering and engine-room watches. Pulls and guides nets, traps, and lines onto vessel, by hand or using hoisting equipment. Attaches nets, slings, hooks, blades, and lifting devices to cables, booms, hoists, and dredges. Hits fish with club or hooks fish with gaff to assist in hauling large fish from water. Loads and unloads equipment and supplies aboard vessel, by hand or using hoisting equipment. Removes catch from fishing equipment and uses measuring equipment to ensure compliance with legal size. Puts fishing equipment into water and anchors or tows equipment according to method of fishing. Connects accessories, such as floats, weights, flags, lights, or markers, to nets, lines, or traps.

### **45-3021. 00 Hunters and Trappers Entry – Mid – Senior level position assuming education and experience prerequisite**

Traps or captures quarry alive for identification, relocation, or live sale. Stands watch to observe behavior of captured quarry. Trains dogs for hunting. Removes designated parts, such as ears or tail, from slain quarry as evidence for killing bounty, using knife. Packs pelts in containers and loads containers onto trucks for transporting. Washes and sorts pelts according to species, color, and quality. Scrapes fat, blubber, or flesh from skin-side of pelt with knife or hand scraper, and cures pelts with salt and boric acid. Kills quarry for pelts or bounty, using club, poison, gun, or drowning method. Patrols trapline or nets to inspect settings, remove catch, and reset or relocate traps. Restrains quarry with arms or nets, and rigs net or sling under catch to permit hoisting without bodily injury. Skins quarry, using knife, and stretches pelts on frames to be cured. Releases quarry from trap or net and transfers it to cage, or secures identification tag to quarry and releases it. Drives quarry into traps, nets, or killing area, using dogs or prods. Select, baits, and sets traps according to species, size, habits, and environs of bird or animal and reason for trapping.



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### **45-4011. 00 Forest and Conservation Workers Entry – Mid – Senior level position assuming education and experience prerequisite**

Plants, cultivates, and harvests trees and tree seedlings to reforest land. Sorts and separates tree seedlings, discarding substandard seedlings, according to standard chart and verbal instructions. Fells trees, clears brush from fire breaks, and extinguishes flames and embers to suppress fires. Examines and grades trees according to standard chart and staples color-coded grade tags to limbs. Clears and piles brush, limbs, and other debris from roadside, fire trails, camping areas, and planting areas. Erects signs and fences, using posthole digger, shovel, or other hand tools. Gathers, bundles or sacks, and delivers forest products to buyer. Maintains campsites and recreational areas, replenishing firewood and other supplies, and cleaning kitchens and restrooms. Drags cut trees from cutting area and loads trees onto truck. Helps forest survey crews by clearing site lines, holding measuring tools, and setting stakes. Prunes or shears treetops and limbs to control growth, increase density, and improve shape. Identifies and cuts diseased, weak, and other undesirable trees to protect forested areas. Sprays or injects trees, brush, and weeds with herbicides to combat insects, pests, and harmful diseases. Selects and cuts trees according to markings or size, specie, and grade.

### **45-4021. 00 Fallers Entry – Mid level position assuming education and experience prerequisite**

Scores cutting lines with ax, saws undercut along scored lines with chain saw, and knocks slabs from cuts with ax. Inserts jacks or drives wedge behind saw to prevent binding of saw and start tree falling. Cuts felled trees into log lengths, using chain saw and ax. Stops saw engine as tree falls, pulls cutting bar from cut, and runs to safe location to avoid injury. Splits logs, using ax, wedges, and maul, and stacks wood in rick or cord lots. Clears brush from work area and escape route, and cuts sapling and other trees from direction of fall, using ax and chain saw. Secures cables to logs, and drives tractor to drag logs to landing. Appraises tree for characteristics, such as twist, rot, and heavy limb growth, and gauges amount and direction of lean. Tags unsafe trees with high visibility ribbon. Loads logs or wood onto trucks, by hand or using winch. Places supporting limbs or poles under felled tree to avoid splitting underside and to prevent log from rolling. Measures and marks felled trees for cutting into log lengths. Determines position, direction, and depth of cuts to be made, and placement of wedges or jacks. Cuts limbs from felled trees, using chain saw or ax. Saws back-cuts, leaving sufficient sound wood to control direction of fall.

### **45-4022. 01 Logging Tractor Operators Entry – Mid level position assuming education and experience prerequisite**

Drives and maneuvers tractor and activates shear to cut and fell trees. Controls equipment to load, unload, or stack logs, pull stumps, and clear brush. Drives tractor to build or repair logging and skid roads. Saws felled trees into lengths. Gives or receives signals from coworkers to move logs. Controls hydraulic tractor equipped with tree clamp and boom to lift, swing, and bunch sheared trees.

### **47-2021. 00 Brickmasons and Blockmasons Entry – Mid – Senior level position assuming education and experience prerequisite**

Lays and aligns bricks, blocks, or tiles to build or repair structures or high temperature equipment, such as cupola, kilns, ovens, or furnaces. Applies and smoothes mortar or other mixture over work surface and removes excess, using trowel and hand tools. Measures distance from reference points and marks guidelines to lay out work, using plumb bobs and levels. Examines brickwork or structure to determine need for repair. Fastens or fuses brick or other building material to structure with wire clamps, anchor holes, torch, or cement. Cleans working surface to remove scale, dust, soot, or chips of brick and mortar, using broom, wire brush, or scraper. Sprays or spreads refractory material over brickwork to protect against deterioration. Removes burned or damaged brick or mortar, using sledgehammer, crowbar, chipping gun, or chisel. Breaks or cuts bricks, tiles, or blocks to size, using edge of trowel, hammer, or power saw. Mixes specified amount of sand, clay, dirt, or mortar powder with water to form refractory mixture. Calculates angles and courses and determines vertical and horizontal alignment of courses.

### **47-2022. 00 Stonemasons Entry – Mid – Senior level position assuming education and experience prerequisite**

Shapes, trims, faces and cuts marble or stone preparatory to setting, using power saws, cutting equipment, and hand tools. Lays out wall pattern or foundation of monument, using straight edge, rule, or staked lines. Finishes joints between stones, using trowel. Smoothes, polishes, and bevels surfaces, using hand tools and power tools. Positions mold along guidelines of wall, presses mold in place, and removes mold and paper from wall. Removes sections of monument from truck bed, and guides stone onto foundation, using skids, hoist, or truck crane. Repairs cracked or chipped areas of ornamental stone or marble surface, using blowtorch and mastic. Digs trench for foundation of monument, using pick and shovel. Drills holes in marble or ornamental stone and anchors bracket. Lines interiors of molds with treated paper and fills molds with composition-stone mixture. Cleans excess mortar or grout from surface of marble, stone, or monument, using sponge, brush, water, or acid. Mixes mortar or grout and pours or spreads mortar or



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grout on marble slabs, stone, or foundation. Aligns and levels stone or marble, using measuring devices, such as rule, square, and plumb line. Sets stone or marble in place, according to layout or pattern.

### **47-2031. 01 Construction Carpenters Entry – Mid – Senior level position assuming education and experience prerequisite**

Shapes or cuts materials to specified measurements, using hand tools, machines, or power saw. Assembles and fastens materials, using hand tools and wood screws, nails, dowel pins, or glue, to make framework or props. Installs structures and fixtures, such as windows, frames, floorings, and trim, or hardware, using carpenter's hand and power tools. Builds or repairs cabinets, doors, frameworks, floors, and other wooden fixtures used in buildings, using woodworking machines, carpenter's hand tools, and power tools. Fills cracks and other defects in plaster or plasterboard and sands patch, using patching plaster, trowel, and sanding tool. Removes damaged or defective parts or sections of structure and repairs or replaces, using hand tools. Verifies trueness of structure, using plumb bob and level. Prepares layout according to blueprint or oral instructions, using rule, framing square, and calipers. Estimates amount and kind of lumber or other materials required, and selects and orders them. Inspects ceiling or floor tile, wall coverings, siding, glass, or woodwork to detect broken or damaged structures. Studies specifications in blueprints, sketches, or building plans to determine materials required and dimensions of structure to be fabricated. Measures and marks cutting lines on materials, using ruler, pencil, chalk, and marking gauge. Finishes surfaces of woodworking or wallboard in houses and buildings, using paint, hand tools, and paneling.

### **47-2031. 02 Rough Carpenters Entry – Mid – Senior level position assuming education and experience prerequisite**

Assembles and fastens material together to construct wood or metal framework of structure, using bolts, nails, or screws. Measures materials or distances, using square, measuring tape, or rule to lay out work. Bores bolt holes in timber with masonry or concrete walls, using power drill. Installs rough door and window frames, sub flooring, fixtures, or temporary supports in structures undergoing construction or repair. Examines structural timbers and supports to detect decay, and replaces timber, using hand tools, nuts, and bolts. Anchors and braces forms and other structures in place, using nails, bolts, anchor rods, steel cables, planks, wedges, and timbers. Digs or directs digging of post holes and sets pole to support structure. Fabricates parts, using woodworking and metalworking machines. Erects forms of prefabricated forms, framework, scaffolds, hoists, roof supports, or chutes, using hand tools, plumb rule, and level. Cuts or saws boards, timbers, or plywood to required size, using handsaw, power saw, or woodworking machine. Studies blueprints and diagrams to determine dimensions of structure or form to be constructed, or erected.

### **47-2031. 03 Carpenter Assemblers and Repairers Mid – Senior level position assuming education and experience prerequisite**

Measures and marks location of studs, leaders, and receptacle openings, using tape measure, template, and marker. Installs prefabricated windows and doors, insulation, wall, ceiling and floor panels or siding, using adhesives, hoists, hand tools, and power tools. Removes surface defects, using knife, scraper, wet sponge, electric iron, and sanding tools. Trims overlapping edges of wood, weatherboard, using portable router or power saw, and hand tools. Applies stain, paint or crayons to defects and filter to touch up the repaired area. Directs crane operator in positioning floor, wall, ceiling, and roof panel on house foundation. Moves panel or roof section to other workstations or to storage or shipping area, using electric hoist. Studies blueprints, specification sheets, and drawings to determine style and type of window or wall panel required. Fills cracks, seams, depressions, and nail holes with filler. Examines wood surfaces for defects, such as nicks, cracks, or blisters. Measures cut materials to determine conformance to specifications, using tape measure. Realigns windows and screens to fit casements and oils moving parts. Repairs or replaces defective locks, hinges, cranks, and pieces of wood, using glue, hand tools, and power tools. Lays out and aligns materials on worktable or in assembly jig according to specified instructions. Cuts sidings and moldings, sections of weatherboard, openings in sheetrock, and lumber, using hand tools and power tools. Aligns and fastens materials together, using hand tools and power tools, to form building or bracing.

### **47-2031. 04 Ship Carpenters and Joiners Entry – Mid – Senior level position assuming education and experience prerequisite**

Reads blueprints to determine dimensions of furnishings in ships or boats. Assembles and installs hardware, gaskets, floors, furnishings, or insulation, using adhesive, hand tools, and power tools. Cuts wood or glass to specified dimensions, using hand tools and power tools. Shapes irregular parts and trims excess material from bulkhead and furnishings to ensure fit meets specifications. Constructs floors, doors, and partitions, using woodworking machines, hand tools, and power tools. Greases gears and other moving parts of machines on ship. Transfers dimensions or measurements of wood parts or bulkhead on plywood, using measuring instruments and marking devices. Repairs





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structural woodwork and replaces defective parts and equipment, using hand tools and power tools. Shapes and laminates wood to form parts of ship, using steam chambers, clamps, glue, and jigs.

### **47-2031. 05 Boat Builders and Shipwrights Entry – Mid – Senior level position assuming education and experience prerequisite**

Cuts and forms parts, such as keel, ribs, sidings, and support structures and blocks, using woodworking hand tools and power tools. Attaches metal parts, such as fittings, plates, and bulkheads, to ship, using brace and bits, augers, and wrenches. Smooths and finishes ship surfaces, using power sander, broadax, adz, and paint, and waxes and buffs surface to specified finish. Measures and marks dimensional lines on lumber, following template and using scribe. Establishes dimensional reference points on layout and hull to make template of parts and locate machinery and equipment. Consults with customer or supervisor and reads blueprint to determine necessary repairs. Attaches hoist to sections of hull, and directs hoist operator to align parts over blocks, according to layout of boat. Marks outline of boat on building dock, shipway, or mold loft according to blueprint specifications, using measuring instruments and crayon. Inspects boat to determine location and extent of defect. Positions and secures support structures on construction area. Cuts out defect, using power tools and hand tools, and fits and secures replacement part, using caulking gun, adhesive, or hand tools. Assembles and installs hull timbers and other structures in ship, using adhesive, measuring instruments, and hand tools or power tools. Constructs and shapes wooden frames, structures, and other parts according to blueprint specifications, using hand tools, power tools, and measuring instruments.

### **47-2031. 06 Brattice Builders Entry – Mid – Senior level position assuming education and experience prerequisite**

Installs rigid and flexible air ducts to transport air to work areas. Erects partitions to support roof in areas unsuited to timbering or bolting. Drills and blasts obstructing boulders to reopen ventilation shafts.

### **47-2041. 00 Carpet Installers Entry – Mid – Senior level position assuming education and experience prerequisite**

Stretches carpet to ensure smooth surface and presses carpet in place over tack strips. Installs carpet on some floors using adhesive, following prescribed method. Cuts carpet padding to size and installs padding, following prescribed method. Cuts and trims carpet to fit along wall edges, openings, and projections. Studies floor sketches to determine area to be carpeted and amount of material needed to complete job. Joins edges of carpet that meet at openings, using tape with glue and heated carpet iron. Moves furniture from area to be carpeted and removes old carpet and padding. Fastens metal treads across door openings or where carpet meets flooring to hold carpet in place. Nails tack strips around area to be carpeted or uses old strips to attach edges of new carpet. Sews sections of carpeting together by hand, when necessary. Measures and cuts carpeting to size according to floor sketches, using carpet knife.

### **47-2042. 00 Floor Layers, Except Carpet, Wood, and Hard Tiles Entry – Mid level position assuming education and experience prerequisite**

Lays out, positions, and applies tile and other decorative material to floors, walls, and cabinets. Rolls and presses sheet wall and floor covering into cement base to smooth and finish surface, using hand roller. Brushes waterproof compound onto surface and fills cracks with plaster, putty, or grout to seal pores and form smooth foundation. Trims excess covering materials, tacks edges, and joins sections of covering material to form tight joint. Disconnects and removes appliances, light fixtures, and worn floor and wall covering from floors, walls, and cabinets. Sweeps, scrapes, sands, or chips dirt and irregularities to clean base surfaces. Removes excess cement to clean finished surface and applies grout to seal joints of tile. Measures and marks guidelines on surfaces or foundations, using chalk lines and dividers. Heats and softens floor covering materials to patch cracks and form floor coverings around irregular surfaces, using blow torch. Applies adhesive cement onto floor or wall material to join and adhere foundation material. Cuts covering and foundation materials, according to blueprints and sketches, and cuts pattern around floor obstructions.

### **47-2043. 00 Floor Sanders and Finishers Entry – Mid level position assuming education and experience prerequisite**

Guides machine over surface of floor until surface is smooth. Applies filler compound to floor to seal wood. Scrapes and sands floor edges and areas inaccessible to floor sander, using scraper and disk-type sander. Attaches sandpaper to roller of sanding machine.

### **47-2044. 00 Tile and Marble Setters Entry – Mid – Senior level position assuming education and experience prerequisite**

Positions and presses or taps tile with trowel handle to affix tile to plaster or adhesive base. Cuts and shapes tile, using tile cutters and biters. Measures and cuts metal lath to size for walls and ceilings, using tin snips. Wipes grout between tiles and removes excess, using wet sponge. Brushes glue onto manila paper on which design has been drawn and positions tile's finished side down onto paper. Mixes and applies mortar or cement to edges and ends of drain tiles to seal



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halves and joints. Installs and anchors fixtures in designated position, using hand tools. Tacks lath to wall and ceiling surfaces, using staple gun or hammer. Selects tile and other items to be installed, such as bathroom accessories, walls, panels, and cabinets, according to specifications. Measures and marks surfaces to be tiled and lays out work, following blueprints. Spreads plaster or concrete over surface to form tile base and levels to specified thickness, using brush, trowel and screed. Cuts tile backing to required size, using shears. Spreads mastic or other adhesive base on roof deck to form base for promenade tile, using serrated spreader.

### **47-2051. 00 Cement Masons and Concrete Finishers Entry – Mid – Senior level position assuming education and experience prerequisite**

Chips, scrapes, and grinds high spots, ridges, and rough projections to finish concrete, using pneumatic chisel, hand chisel, or hand tools. Polishes surface, using polishing or surfacing machine. Pushes roller over surface to imbed chips in surface. Builds wooden molds, and clamps molds around area to be repaired, using hand tools. Cuts out damaged areas, drills holes for reinforcing rods, and positions reinforcing rods to repair concrete, using power saw and drill. Mixes cement, sand, and water to produce concrete, grout, or slurry, using hoe, trowel, tamper, scraper, or concrete-mixing machine. Molds expansion joints and edges, using edging tools, jointers, and straightedge. Applies muriatic acid to clean surface, and rinses with water. Cuts metal division strips, and presses them into terrazzo base so that top edges form desired design or pattern. Spreads roofing paper on surface of foundation, and spreads concrete onto roofing paper with trowel to form terrazzo base. Produces rough concrete surface, using broom. Signals truck driver to position truck to facilitate pouring concrete, and moves chute to direct concrete on forms. Spreads, levels, and smooths concrete, using rake, shovel, hand or power trowel, hand or power screed, and float. Cleans chipped area, using wire brush, and feels and observes surface to detect rough or uneven surface. Wets surface to prepare for bonding, fills holes and cracks with grout or slurry, and smooths, using trowel. Wets concrete surface, and rubs with stone to smooth surface and obtain specified finish. Sprinkles colored marble or stone chips, powdered steel, or coloring powder over surface to produce prescribed finish.

### **47-2053. 00 Terrazzo Workers and Finishers Entry – Mid – Senior level position assuming education and experience prerequisite**

Chips, scrapes, and grinds high spots, ridges, and rough projections to finish concrete, using pneumatic chisel, hand chisel, or hand tools. Polishes surface, using polishing or surfacing machine. Pushes roller over surface to imbed chips in surface. Spreads roofing paper on surface of foundation, and spreads concrete onto roofing paper with trowel to form terrazzo base. Produces rough concrete surface, using broom. Spreads, levels, and smooths concrete, using rake, shovel, hand or power trowel, hand or power screed, and float. Cleans chipped area, using wire brush, and feels and observes surface to detect rough or uneven surface. Wets surface to prepare for bonding, fills holes and cracks with grout or slurry, and smooths, using trowel. Wets concrete surface, and rubs with stone to smooth surface and obtain specified finish. Sprinkles colored marble or stone chips, powdered steel, or coloring powder over surface to produce prescribed finish. Cuts metal division strips, and presses them into terrazzo base so that top edges form desired design or pattern. Applies muriatic acid to clean surface, and rinses with water. Mixes cement, sand, and water to produce concrete, grout, or slurry, using hoe, trowel, tamper, scraper, or concrete-mixing machine. Signals truck driver to position truck to facilitate pouring concrete, and moves chute to direct concrete on forms. Builds wooden molds, and clamps molds around area to be repaired, using hand tools. Cuts out damaged areas, drills holes for reinforcing rods, and positions reinforcing rods to repair concrete, using power saw and drill. Molds expansion joints and edges, using edging tools, jointers, and straightedge.

### **47-2061. 00 Construction Laborers Entry – Mid level position assuming education and experience prerequisite**

Tends pumps, compressors, and generators to provide power for tools, machinery, and equipment or to heat and move materials such as asphalt. Positions, joins, aligns, and seals structural components, such as concrete wall sections and pipes. Digs ditches and levels earth to grade specifications, using pick and shovel. Signals equipment operators to facilitate alignment, movement, and adjustment of machinery, equipment, and materials. Builds and positions forms for pouring concrete and dismantles forms after use, using saws, hammers, nails, or bolts. Grinds, scrapes, sands, or polishes surfaces, such as concrete, marble, terrazzo, or wood flooring, using abrasive tools or machines. Erects and disassembles scaffolding, shoring, braces, and other temporary structures. Mixes concrete, using portable mixer. Loads and unloads trucks and hauls and hoists materials. Measures, marks, and records openings and distances to lay out area to be graded or to erect building structures. Smooth and finishes freshly poured cement or concrete, using float, trowel, screed, or powered cement finishing tool. Applies caulking compounds by hand or with caulking gun to seal crevices. Tends machine that pumps concrete, grout, cement, sand, plaster or stucco through spray gun for application to ceilings and walls. Lubricates, cleans, and repairs machinery, equipment, and tools. Sprays materials such as water, sand, steam, vinyl, paint, or stucco through hose to clean, coat, or seal surfaces. Razes buildings and salvages useful materials. Mixes ingredients to create compounds, used to cover or clean surfaces. Cleans construction site to



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eliminate possible hazards. Mops, brushes, or spreads paints, cleaning solutions or other compounds over surfaces to clean or provide protection.

### **47-2071. 00 Paving, Surfacing, and Tamping Equipment Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates machine or manually rolls surfaces to compact earth fills, foundation forms, and finished road materials, according to grade specifications. Sets up forms and lays out guidelines for curbs, according to written specifications, using string, spray paint, and concrete/water mix. Cleans, maintains, and repairs equipment, according to specifications, using mechanics' hand tools, or reports malfunction to supervisor. Fill tank, hopper, or machine with paving materials. Installs dies, cutters, and extensions to screed onto machine, using hand tools. Drives machine onto truck trailer and drives truck to transport machine to and from job site. Lights burner or starts heating unit of machine and regulates temperature. Monitors machine operation and observes distribution of paving material to adjust machine settings or material flow. Operate machine to spread, smooth, or steel-reinforce stone, concrete, or asphalt. Operate machine to mix and spray binding, waterproofing, and curing compounds. Operates machine to clean or cut expansion joints in concrete or asphalt and to rout out cracks in pavement. Starts machine, engages clutch, pushes and moves levers, and turns wheels to control and guide machine along forms or guidelines. Drives and operates curbing machine to extrude concrete or asphalt curbing.

### **47-2072. 00 Pile-Driver Operators Entry – Mid level position assuming education and experience prerequisite**

Moves hand and foot levers to control hoisting equipment to position piling leads, hoist piling into leads, and position hammer over piling. Moves levers and turns valves to activate power hammer or raise and lower drop hammer, which drives piles to required depth.

### **47-2073. 01 Grader, Bulldozer, and Scraper Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts engine, moves throttle, switches, and levers, and depresses pedals to operate machines, equipment, and attachments. Drives equipment in successive passes over working area to achieve specified result, such as grade terrain or remove, dump, or spread earth and rock. Fastens bulldozer blade or other attachment to tractor, using hitches. Greases, oils, and performs minor repairs on tractor, using grease gun, oilcans, and hand tools. Signals operator to guide movement of tractor-drawn machine. Connects hydraulic hoses, belts, mechanical linkage, or power takeoff shaft to tractor. Aligns machine, cutterhead, or depth gauge marker with reference stakes and guidelines on ground or positions equipment following hand signals of assistant.

### **47-2081. 01 Ceiling Tile Installers Entry – Mid level position assuming education and experience prerequisite**

Applies acoustical tiles or shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound and to decorate rooms. Nails or screws molding to wall to support and seals joint between ceiling tile and wall. Applies cement to back of tile and presses tile into place, aligning with layout marks and joints of previously laid tile. Scribes and cuts edges of tile to fit wall where wall molding is not specified. Cuts tiles for fixture and borders, using keyhole saw, and inserts tiles into supporting framework. Hangs dry lines (stretched string) to wall molding to guide positioning of main runners. Washes concrete surfaces with washing soda and zinc sulfate solution before mounting tile to increase adhesive qualities of surfaces. Inspects furrings, mechanical mountings, and masonry surface for plumbness and level, using spirit or water level. Measures and marks surface to lay out work according to blueprints and drawings. Nails channels or wood furring strips to surfaces to provide mounting for tile.

### **47-2081. 02 Drywall Installers Entry – Mid level position assuming education and experience prerequisite**

Trims rough edges from wallboard to maintain even joints, using knife. Fits and fastens wallboard or sheetrock into specified position, using hand tools, portable power tools, or adhesive. Cuts openings into board for electrical outlets, windows, vents, or fixtures, using keyhole saw or other cutting tools. Installs horizontal and vertical metal or wooden studs for attachment of wallboard on interior walls, using hand tools. Lays out reference lines and points, computes position of framing and furring channels, and marks position, using chalk line. Assembles and installs metal framing and decorative trim for windows, doorways, and bents. Reads blueprints and other specifications to determine method of installation, work procedures, and material and tool requirements. Installs blanket insulation between studs and tacks plastic moisture barrier over insulation. Removes plaster, drywall, or paneling, using crowbar and hammer. Suspends angle iron grid and channel iron from ceiling, using wire. Cuts metal or wood framing, angle and channel iron, and trim to size, using cutting tools. Measures and marks cutting lines on framing, drywall, and trim, using tape measure, straightedge or square, and marking devices.

### **47-2082. 00 Tapers Entry – Mid level position assuming education and experience prerequisite**



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Spreads sealing compound between boards, using trowel, broad knife or spatula. Sands rough spots after cement has dried. Installs metal molding at corners in lieu of sealant and tape. Fills cracks and holes in walls and ceiling with sealing compound. Countersinks nails or screws below surface of wall prior to applying sealing compound, using hammer or screwdriver. Applies texturizing compound and primer to walls and ceiling preparatory to final finishing, using brushes, roller, or spray gun. Mixes sealing compound by hand or with portable electric mixer. Spreads and smoothes cementing material over tape, using trowel or floating machine to blend joint with wall surface. Presses paper tape over joint to embed tape into sealing compound and seal joint. Tapes joint, using mechanical applicator that spreads compound and embeds tape in one operation.

### **47-2111. 00 Electricians Entry – Mid – Senior level position assuming education and experience prerequisite**

Installs electrical wiring, equipment, apparatus, and fixtures, using hand tools and power tools. Diagnoses malfunctioning systems, apparatus, and components, using test equipment and hand tools. Tests electrical systems and continuity of circuits in electrical wiring, equipment, and fixtures, using testing devices, such as ohmmeter, voltmeter, and oscilloscope. Drives vehicle, operates floodlights, and places flares during power failure or emergency. Directs and trains workers to install, maintain, or repair electrical wiring, equipment, and fixtures. Possesses electrician's license or identification card to meet governmental regulations. Constructs and fabricates parts, using hand tools and specifications. Climbs ladder to install, maintain or repair electrical wiring, equipment and fixtures. Prepares sketches of location of wiring and equipment or follows blueprints to determine location of equipment and conformance to safety codes. Readies and assembles electrical wiring, equipment and fixtures, using specifications and hand tools. Maintains and repairs or replaces wiring, equipment and fixtures, using hand tools. Inspects systems and electrical parts to detect hazards, defects, and need for adjustments or repair. Plans layout and installation of electrical wiring, equipment and fixtures consistent with specifications and local codes.

### **47-2131. 00 Insulation Workers, Floor, Ceiling, and Wall Entry – Mid level position assuming education and experience prerequisite**

Fits, wraps, or attaches insulating materials to structures of surfaces, using hand tools or wires, following blueprint specifications. Prepare surfaces for insulation application by brushing or spreading on adhesives, cement, or asphalt or attaching metal pins to surfaces. Evenly distributes insulating materials into small spaces within floors, ceilings, or walls, using blower and hose attachments or cement mortar. Covers, seals or finishes insulated surfaces or access holes with plastic covers, canvas ships, sealant, tape, cement or asphalt mastic. Reads blueprints and selects appropriate insulation, based on the heat retaining or excluding characteristics of the material. Moves controls, buttons, or levers to start blower and regulate flow of materials through nozzle. Measures and cuts insulation for covering surfaces, using tape measure, handsaw, knife or scissors. Fills blower hopper with insulating materials.

### **47-2132. 00 Insulation Workers, Mechanical Entry – Mid level position assuming education and experience prerequisite**

Fits, wraps, or attaches insulating materials to structures of surfaces, using hand tools or wires, following blueprint specifications. Prepare surfaces for insulation application by brushing or spreading on adhesives, cement, or asphalt or attaching metal pins to surfaces. Reads blueprints and selects appropriate insulation, based on the heat retaining or excluding characteristics of the material. Covers, seals or finishes insulated surfaces or access holes with plastic covers, canvas ships, sealant, tape, cement or asphalt mastic. Evenly distributes insulating materials into small spaces within floors, ceilings, or walls, using blower and hose attachments or cement mortar. Measures and cuts insulation for covering surfaces, using tape measure, handsaw, knife or scissors. Fills blower hopper with insulating materials. Moves controls, buttons, or levers to start blower and regulate flow of materials through nozzle.

### **47-2141. 00 Painters, Construction and Maintenance Entry – Mid level position assuming education and experience prerequisite**

Paints surfaces, using brushes, spray gun, or rollers. Cuts stencils, and brushes and sprays lettering and decorations on surfaces. Smoothes surfaces, using sandpaper, scrapers, brushes, steel wool, or sanding machine. Sprays or brushes hot plastics or pitch onto surfaces. Removes fixtures, such as pictures and electric switch covers, from walls prior to painting. Covers surfaces with drop cloths or masking tape and paper to protect surface during painting. Burns off old paint, using blowtorch. Reads work order or receives instructions from supervisor or homeowner. Erects scaffolding or sets up ladders to work above ground level. Fills cracks, holes, and joints with caulk putty, plaster, or other filler, using caulking gun or putty knife. Mixes and matches colors of paint, stain, or varnish. Washes and treats surfaces with oil, turpentine, mildew remover, or other preparations. Sands surfaces between coats and polishes final coat to specified finish. Bakes finish on painted and enameled articles in baking oven. Applies paint to simulate wood grain, marble, brick, or stonework.



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### **47-2151. 00 Pipelayers Entry – Mid level position assuming education and experience prerequisite**

Grades and levels base of trench, using tamping machine and hand tools. Checks slope, using carpenter's level or lasers. Digs trenches to desired or required depth by hand or using trenching tool. Taps and drills holes into pipe to introduce auxiliary lines or devices. Covers pipe with earth or other materials. Lays out route of pipe, following written instructions or blueprints. Lays pipes in trenches and welds, cements, glues, or otherwise connects pieces together.

### **47-2152. 01 Pipe Fitters Entry – Mid – Senior level position assuming education and experience prerequisite**

Plans pipe system layout, installation, or repair according to specifications. Operates motorized pump to remove water from flooded manholes, basements, or facility floors. Turns valve to shut off steam, water, or other gases or liquids from pipe section, using valve key or wrenches. Cuts and bores holes in structures, such as bulkheads, decks, walls, and mains, using hand and power tools, prior to pipe installation. Coats nonferrous piping materials by dipping in mixture of molten tin and lead to prevent erosion, or galvanic and electrolytic action. Inspects work site to determine presence of obstruction and ensure that holes will not cause structure weakness. Lays out full-scale drawings of pipe systems, supports, and related equipment, following blueprints. Modifies and maintains pipe systems and related machines and equipment components following specifications, using hand tools and power tools. Selects pipe sizes and types and related materials, such as supports, hangers, and hydraulic cylinders, according to specifications. Measures and marks pipes for cutting and threading. Inspects, examines, and tests installed systems and pipe lines, using pressure gauge, hydrostatic testing, observation, or other methods. Assembles pipes, tubes, and fittings, according to specifications. Attaches pipes to walls, structures and fixtures, such as radiators or tanks, using brackets, clamps, tools or welding equipment. Cuts, threads, and hammers pipe to specifications, using tools such as saws, cutting torches, and pipe threaders and benders.

### **47-2152. 03 Pipelaying Fitters Entry – Mid – Senior level position assuming education and experience prerequisite**

Guides pipe into trench and signals hoist operator to move pipe until specified alignment with other pipes is achieved. Inspects joint to verify uniformity of spacing and alignment of pipe surfaces. Corrects misalignment of pipe, using sledgehammer. Inserts spacers between pipe ends.

### **47-2171. 00 Reinforcing Iron and Rebar Workers Entry – Mid level position assuming education and experience prerequisite**

Determines number, sizes, shapes, and locations of reinforcing rods from blueprints, sketches, or oral instructions. Selects and places rods in forms, spacing and fastening them together, using wire and pliers. Bends steel rods with hand tools and rod bending machine. Cuts rods to required lengths, using hacksaw, bar cutters, or acetylene torch. Reinforces concrete with wire mesh. Welds reinforcing bars together, using arch-welding equipment.

### **47-2181. 00 Roofers Entry – Mid level position assuming education and experience prerequisite**

Fastens composition shingles or sheets to roof with asphalt, cement, or nails. Overlaps successive layers of roofing material, determining distance of overlap, using chalk line, gauge on shingling hatchet, or lines on shingles. Mops or pours hot asphalt or tar onto roof base when applying asphalt or tar and gravel to roof. Cuts roofing paper to size and nails or staples paper to roof in overlapping strips to form base for roofing materials. Applies gravel or pebbles over top layer, using rake or stiff-bristled broom. Cleans and maintains equipment. Removes snow, water, or debris from roofs prior to applying roofing materials. Insulates, soundproofs, and seals buildings with foam, using spray gun, air compressor, and heater. Punches holes in slate, tile, terra cotta, or wooden shingles, using punch and hammer. Cuts strips of flashing and fits them into angles formed by walls, vents, and intersecting roof surfaces. Aligns roofing material with edge of roof. Applies alternate layers of hot asphalt or tar and roofing paper until roof covering is completed as specified.

### **47-2221. 00 Structural Iron and Steel Workers Entry – Mid – Senior level position assuming education and experience prerequisite**

Guides structural-steel member, using tab line (rope), or rides on member in order to guide it into position. Sets up hoisting equipment for raising and placing structural-steel members. Inserts sealing strips, wiring, insulating material, ladders, flanges, gauges, and valves, depending on type of structure being assembled. Cuts and welds steel members to make alterations, using oxyacetylene welding equipment. Bucks (holds) rivets while Riveter, Pneumatic uses air-hammer to form heads on rivets. Catches hot rivets tossed by Rivet Heater in bucket and inserts rivets in holes, using tongs. Signals worker operating hoisting equipment to lift and place structural-steel member. Verifies vertical and horizontal alignment of structural-steel members, using plumb bob and level. Fastens structural-steel members to cable of hoist, using chain, cable, or rope. Forces structural-steel members into final position, using turnbuckles, crowbars, jacks, and hand tools. Drives drift pins through rivet holes to align rivet holes in structural-steel member with



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corresponding holes in previously placed member. Pulls, pushes, or pries structural-steel member into approximate position while member is supported by hoisting device. Bolts aligned structural-steel members in position until they can be permanently riveted, bolted, or welded in place.

### **47-3011. 00 Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters Entry level position assuming education and experience prerequisite**

Assists in the preparation, installation, repair or rebuilding of tile, brick or stone surfaces. Removes damaged tile, brick or mortar and prepares installation surfaces, using pliers, chipping hammers, chisels, drills, and metal wire anchors. Applies grout between joints of bricks or tiles, using grouting trowel. Removes excess grout and residue from tile or brick joints with wet sponge or trowel. Cleans installation surfaces, equipment, tools work site, and storage areas, using water, chemical solutions, oxygen lance or polishing machines. Modifies material moving, mixing, grouting, grinding, polishing or cleaning procedures according to the type of installation or materials required. Corrects surface imperfections or fills chipped, cracked or broken bricks or tiles, using fillers, adhesives, and grouting materials. Erects scaffolding or other installation structures. Arranges and stores materials, machines, tools and equipment. Moves or positions marble slabs and ingot covers, using crane, hoist or dolly. Cuts materials to specified size for installation, using power saw or tile cutter. Selects materials for installation, following numbered sequence or drawings. Manually or machine-mixes mortar, plaster and grout, according to standard formulae. Transports materials, tools, and machines to installation site, manually or using conveyance equipment. Applies caulk, sealants or other agents to installed surface.

### **47-3012. 00 Helpers--Carpenters Entry level position assuming education and experience prerequisite**

Holds plumb bobs, sighting rods, and other equipment to aid in establishing reference points and lines. Positions and holds timbers, lumber, and paneling in place for fastening or cutting. Hews timbers. Erects scaffolding, shoring, and braces. Selects needed tools, equipment, and materials from storage and transports items to work site. Covers surfaces with laminated plastic covering material. Drills holes in timbers or lumber. Cuts tile or linoleum to fit. Cuts timbers, lumber and/or paneling to specified dimensions. Fastens timbers and/or lumber with glue, screws, pegs, or nails. Spreads adhesives on flooring to install tile or linoleum. Smooths and sands surfaces to remove ridges, tool marks, glue, or caulking. Glues and clamps edges or joints of assembled parts. Cuts and installs insulating or sound-absorbing material.

### **47-3013. 00 Helpers--Electricians Entry level position assuming education and experience prerequisite**

Maintains tools and equipment, washes parts, and keeps supplies and parts in order. Raises, lowers, or positions equipment, tools, and materials for installation or use, using hoist, handline, or block and tackle. Trims trees and clears undergrowth along right-of-way. Breaks up concrete to facilitate installation or repair of equipment, using air hammer. Threads conduit ends, connects couplings, and fabricates and secures conduit support brackets, using hand tools. Disassembles defective electrical equipment, replaces defective or worn parts, and reassembles equipment, using hand tools. Strings transmission lines or cables through ducts or conduits, underground, through equipment, or to towers. Examines electrical units for loose connections and broken insulation and tightens connections, using hand tools. Traces out short circuits in wiring, using test meter. Rigs scaffolds, hoists, and shoring, erects barricades, and digs trenches. Solders electrical connections, using soldering iron. Bolts component parts together to form tower assemblies, using hand tools. Drills holes for wiring, using power drill, and pulls or pushes wiring through opening. Measures, cuts, and bends wire and conduit, using measuring instruments and hand tools. Strips insulation from wire ends, using wire stripping pliers, and attaches wires to terminals for subsequent soldering. Transports tools, materials, equipment, and supplies to work site, manually or using hand truck or by driving truck.

### **47-3014. 00 Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons Entry level position assuming education and experience prerequisite**

Performs any combination of support duties to assist painter, paperhanger, plasterer, or mason. Pours specified amounts of chemical solutions into stripping tanks. Places articles to be stripped into stripping tanks. Removes articles, such as cabinets, metal furniture, and paint containers, from stripping tanks after prescribed period of time. Fills cracks or breaks in surfaces of plaster articles with putty or epoxy compounds. Smooths surfaces of articles to be painted, using sanding and buffing tools and equipment. Covers surfaces of articles not to be painted with masking tape prior to painting.

### **47-3015. 00 Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters Entry level position assuming education and experience prerequisite**

Fits or assists in fitting valves, couplings, or assemblies to tanks, pumps, or systems, using hand tools. Requisitions tools and equipment and selects type and size of pipe. Assists in installing gas burner to convert furnaces from wood, coal, or oil. Disassembles and removes damaged or worn pipe. Fills pipe with sand or resin to prevent distortion, and holds



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pipes during bending and installation. Cleans shop, work area, and machines, using solvent and rags. Cuts or drills holes in walls to accommodate passage of pipes, using pneumatic drill. Mounts brackets and hangers on walls and ceilings to hold pipes. Immerses pipe in chemical solution to remove dirt, oil, and scale.

### **47-3016. 00 Helpers--Roofers Entry level position assuming education and experience prerequisite**

Help roofers by performing duties of lesser skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment.

### **47-4021. 00 Elevator Installers and Repairers Entry – Mid – Senior level position assuming education and experience prerequisite**

Studies blueprints to determine layout of framework and foundations. Cuts prefabricated sections of framework, rails, and other components to specified dimensions. Completes service reports to verify conformance to prescribed standards. Locates malfunction in brakes, motor, switches, and signal and control systems, using test equipment. Inspects wiring connections, control panel hookups, door installation, and alignment and clearance of car Hostway. Operates elevator to determine power demand and tests power consumption to detect overload factors. Lubricates bearings and other parts to minimize friction. Adjusts safety controls, counter weights, and mechanism of doors. Connects electrical wiring to control panels and electric motors. Installs safety and control devices, cables, drives, rails, motors, and elevator cars. Disassembles defective unit and repairs or replaces parts, such as locks, gears, cables, and electric wiring.

### **47-4031. 00 Fence Erectors Entry – Mid – Senior level position assuming education and experience prerequisite**

Sets metal or wooden post in upright position in posthole. Lays out fence line, using tape measure and marks positions for postholes. Aligns posts, using line or by sighting, and verifies vertical alignment of posts with plumb bob or spirit level. Digs postholes with spade, posthole digger, or power-driven auger. Saws required lengths of lumber to make rails for wooden fence. Assembles gate and fastens gate in position, using hand tools. Mixes and pours concrete around base of post or tamps soil into posthole to embed post. Erects alternate panel, basket weave, and louvered fences. Nails pointed slats to rails to construct picket fence. Blasts rock formations with dynamite to facilitate digging of postholes. Welds metal parts together, using portable gas welding equipment. Cuts metal tubing, using pipe cutter. Completes top fence rail of metal fence by connecting tube sections, using metal sleeves. Attaches rails or tension wire along bottoms of posts to form fencing frame. Stretches wire, wire mesh, or chain link fencing between posts. Nails top and bottom rails to fence posts, or inserts them in slots on posts. Attaches fencing to frame. Inserts metal tubing through rail supports. Attaches fence rail support to post, using hammer and pliers.

### **47-4041. 01 Irradiated-Fuel Handlers Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates machines and equipment to package, store, or transport loads of waste materials. Follows prescribed safety procedures and complies with federal laws regulating waste disposal methods. Cleans contaminated equipment for reuse, using detergents and solvents, sandblasters, filter pumps and steam cleaners. Records number of containers stored at disposal site, and specifies amount and type of equipment and waste disposed. Mixes and pours concrete into forms to encase waste material for disposal. Loads and unloads materials into containers and onto trucks, using hoists or forklift. Drives truck to convey contaminated waste to designated sea or ground location.

### **47-4051. 00 Highway Maintenance Workers Entry – Mid level position assuming education and experience prerequisite**

Erects, installs, and repairs guardrails, highway markers, button-type lane markers, and snow fences, using hand tools and power tools. Drives truck to transport crew and equipment to work site. Drives truck or tractor equipped with adjustable snowplow and blower unit. Drives tractor with mower attachment to cut grass. Sets signs and cones around work area to divert traffic. Verifies alignment of markers by sight. Blends compounds to form adhesive mixture, using spoon. Measures and marks locations for installation of markers, using tape, string, or chalk. Dumps, spreads, and tamps asphalt, using pneumatic tamper to patch broken pavement.

### **47-4061. 00 Rail-Track Laying and Maintenance Equipment Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives vehicle that automatically moves and lays track or rails over section of track to be constructed, repaired, or maintained. Adjusts controls of machines that spread, shape, raise, level, and align track, according to specifications. Turns wheels of machine, using lever controls, to adjust guidelines for track alignments and grades, following specifications. Drives graders, tamping machines, brooms, and ballast-cleaning-spreading machines to redistribute gravel and ballast between rails. Lubricates machines, changes oil, and fills hydraulic reservoirs to specified levels.



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Observes leveling indicator arms to verify levelness and alignment of track. Strings and attaches wire-guidelines machine to rails to level or align track or rails. Pushes control to close grasping device on track or rail section to raise or move section to specified location. Engages mechanism that lays track or rail to specified gauge.

### **47-4071. 00 Septic Tank Servicers and Sewer Pipe Cleaners Entry – Mid – Senior level position assuming education and experience prerequisite**

Rotates cleaning rods manually with turning pin. Communicates with supervisor and other workers, using radio telephone. Updates sewer maps and manhole charting. Services, adjusts, and makes minor repairs to equipment, machines, and attachments. Drives pickup trucks to haul crew, materials, and equipment. Taps mainline sewers to install sewer saddles. Requisitions tools and equipment and prepares records showing actions taken. Notifies coworkers to dig out ruptured line or digs out shallow sewers, using shovel. Breaks asphalt and other pavement, using air hammer, pick, and shovel. Covers repaired pipe with dirt and packs backfilled excavation, using air and gasoline tamper. Inspects manholes to locate stoppage of sewer line and repaired sewer line joints to ensure tightness, prior to backfilling. Measures distance of excavation site, using plumbers' snake, tapeline, or length of cutting head within sewer and marks trenching area. Cuts damaged section of pipe with cutters, removes broken section from ditch, and replaces pipe section, using pipe sleeve. Starts machine to feed revolving cable or rods into opening, stopping machine and changing knives to conform to pipe size. Withdraws cable and observes residue for evidence of mud, roots, grease, and other deposits indicating broken or clogged sewer line. Installs rotary knives on flexible cable, mounted on reel of machine, according to diameter of pipe to be cleaned. Cleans and disinfects domestic basements and other areas flooded as result of sewer stoppages. Cleans sewage collection points and sanitary lines and repairs catch basins, manholes, culverts, and storm drains. Operates sewer cleaning equipment, including power rodder, high velocity water jet, sewer flusher, bucket machine, wayne ball, and vac-all.

### **47-4091. 00 Segmental Pavers Entry – Mid – Senior level position assuming education and experience prerequisite**

Lay out, cut and paste segmental paving units. Includes installed of bedding and restraining materials for the paving units.

### **47-5011. 00 Derrick Operators, Oil and Gas Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts pumps that circulate mud through drill pipe and borehole to cool drill bit and flush out drill-cuttings. Clamps holding fixture on end of hoisting cable. Mixes drilling mud, using portable power mixer. Weighs clay. Repairs pumps. Cleans and oils pulleys, blocks, and cables. Strings cables through pulleys and blocks. Sets and bolts crown block to posts at top of derrick.

### **47-5012. 00 Rotary Drill Operators, Oil and Gas Entry – Mid – Senior level position assuming education and experience prerequisite**

Observes pressure gauge and moves control to regulate speed of rotary table and pressure of tools at bottom of borehole. Lowers and explodes charge in borehole to start flow of oil from well. Repairs or replaces defective parts of machinery, using hand tools. Keeps record of footage drilled, location and nature of strata penetrated, and materials used. Caps well or turns valves to regulate outflow of oil from well. Fishes for and recovers lost or broken bits, casing and drill pipes from well, using special tools. Examines drillings or core samples from bottom of well to determine nature of strata. Withdraws core barrel from hole and extracts core from barrel. Connects sections of drill pipe, using hand tools and powered wrenches and tongs. Counts sections of drill rod to determine depth of borehole. Examines operation of slush pumps to ensure circulation and consistency of mud (drilling fluid) in well. Positions truck-mounted derrick at drilling area specified on field map. Pushes levers and brake pedals to control draw works which lowers and raises drill pipe and casing in and out of well. Selects and changes drill bits according to nature of strata, using hand tools.

### **47-5013. 00 Service Unit Operators, Oil, Gas, and Mining Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates equipment to increase oil flow from producing wells. Assembles and lowers detection instruments into wells having drill pipe, drilling tools, or other obstructions wedged in well. Assembles and operates sound wave generating and detecting mechanisms for determining fluid level in wells. Interprets instrument readings to ascertain depth of obstruction. Prepares reports of services rendered, tools used, and time required. Directs activities of preparing for and drilling around lodged obstacles or specified earth formations with specialized tools and whipstocks. Directs other worker to assemble and connect pipe and hydraulic lines of flushing equipment to wellhead. Directs drilling crew in installation of well-bottom equipment. Directs lowering of specialized equipment to point of obstruction. Observes variations on gauges, mud pumps, and pressure indicators, and listens to equipment to detect faulty operations or unusual conditions.





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Perforates well casing or sidewall of borehole with explosive charge. Confers with other personnel to gather information regarding size of pipes and tools and borehole conditions in wells. Plans fishing methods and selects tools for removing obstacles, such as liners, broken casing, screens, and drill pipe from wells. Starts pumps, which circulate water, oil, or other fluid through well, removing sand and other materials obstructing free flow of oil. Moves controls to back off pipe or to sever pipe at point of obstruction. Analyzes conditions of unserviceable oil or gas wells and directs recovery of lost equipment and other obstacles from boreholes. Operates hoist to lower and raise tools. Operates equipment to remove stuck pipe, casing, tools, or other obstructions from drilling wells, using specialized subsurface tools and instruments.

### **47-5021. 01 Construction Drillers Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts, stops, and controls drilling speed of machine and insertion of casing into hole. Drives truck or tractor to work site. Operates machine to flush earth cuttings, or blows dust from hole. Assembles and positions machine, augers, and casing pipes. Verifies depth and level of boring position. Signals crane operator to move equipment. Operates hoist to lift power line poles into position. Retracts auger to force discharge dirt from hole. Monitors drilling operation and strata being drilled to determine need to adjust drilling or insert casing into hole.

### **47-5021. 02 Well and Core Drill Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts and controls drilling action and lowering of well casing into well bore. Couples additional lengths of drill rod as bit advances. Assembles non-truck-mounted drilling equipment, using hand tools and power tools. Inspects core samples to determine nature of strata, or takes samples to laboratory for analysis. Drives or guides truck-mounted equipment into position, levels and stabilizes rig, and extends telescoping derrick. Lubricates machine, splices worn or broken cables, replaces parts, and builds up and repairs drill bits. Fabricates well casings. Records drilling progress and geological data. Retrieves lost equipment from bore holes, using retrieval tools and equipment. Pours water into well or pumps water or slush into well to cool drill bit and remove drillings. Changes drill bits as needed. Monitors operation of drilling equipment to determine changes in strata or variations in drilling. Withdraws drill rod from hole and extracts core sample.

### **47-5041. 00 Continuous Mining Machine Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Moves levers to sump (advance) ripper bar or boring head into face of coal seam. Drives machine into position at working face. Repairs, oils, and adjusts machine and changes cutting teeth, using wrench. Moves lever to raise and lower hydraulic safety bar that supports roof above machine until other workers complete their framing. Starts machine to gather coal and convey it to floor or shuttle car.

### **47-5042. 00 Mine Cutting and Channeling Machine Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Moves controls to start and position drill cutter or torch, and to advance tool into mine or quarry face. Replaces worn or broken tools and machine parts and lubricates machine. Installs casing to prevent cave-ins. Charges and sets off explosives in blasting holes. Guides and assists crew laying track for machine and resetting supports and blocking, using jacks, shovel, sledge, and pinch bar. Moves controls to start and regulate movement of conveyors to move or load material. Observes and listens to operation to detect binding or stoppage of tool or equipment malfunction. Determines location, boundaries, and depth of holes or channels to be cut. Drives mobile, truck-mounted, or track-mounted drilling or cutting machine in mine, quarry, or construction site. Repositions machine and moves controls to make additional holes or cuts.

### **47-5051. 00 Rock Splitters, Quarry Entry – Mid – Senior level position assuming education and experience prerequisite**

Inserts wedges and feathers into holes and drives wedges with sledgehammer to split stone from mass. Drills holes along outline with jackhammer. Cuts groove along outline, using chisel. Marks desired dimensions on stone, using rule and chalk line.

### **47-5071. 00 Roustabouts, Oil and Gas Entry – Mid – Senior level position assuming education and experience prerequisite**

Bolts or nails together wood or steel framework to erect derrick. Digs holes, sets forms, and mixes and pours concrete into forms to make foundations for wood or steel derricks. Unscrews or tightens pipe, casing, tubing, and pump rods, using hand and power wrenches and tongs. Dismantles and assembles boilers and steam engine parts, using hand tools and power tools. Bolts together pump and engine parts. Connects tanks and flow lines, using wrenches.



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### **47-5081. 00 Helpers--Extraction Workers Entry level position assuming education and experience prerequisite**

Assists workers to extract geological materials, using hand tools and equipment. Unloads materials, devices and machine parts, using hand tools. Drives moving equipment to transport materials and parts to excavation site. Sets-up and adjusts equipment used to excavate geological materials. Organizes materials and prepares site for excavation or boring, using hand tools. Observes and monitors equipment operation during extraction process. Signals workers to start extraction or boring process of geological materials. Repairs and maintains automotive and drilling equipment, using hand tools. Examines and collects geological matter, using hand tools and testing devices. Dismantles extracting and boring equipment used for excavation, using hand tools. Loads materials into gas or well hole, or equipment, using hand tools.

### **49-3093. 00 Tire Repairers and Changers Entry – Mid level position assuming education and experience prerequisite**

Remounts wheel onto vehicle. Locates puncture in tubeless tire by visual inspection or by immersing inflated tire in water bath and observing air bubbles. Seals puncture in tubeless tire by inserting adhesive material and expanding rubber plug into puncture, using hand tools. Removes wheel from vehicle by hand or by use of power hoist. Separates tubed tire from wheel, using rubber mallet and metal bar or mechanical tire changer. Patches tube with adhesive rubber patch or seals rubber patch to tube, using hot vulcanizing plate. Unbolts wheel, using lug wrench. Inflates inner tube and immerses it in water to locate leak. Glues boot (tire patch) over rupture in tire casing, using rubber cement. Cleans sides of white wall tires. Buffs defective area of inner tube, using scraper. Raises vehicle, using hydraulic jack. Hammers required counterweights onto rim of wheel. Rotates tires to different positions on vehicle, using hand tools. Places wheel on balancing machine to determine counterweights required to balance wheel. Reassembles tire onto wheel. Removes inner tube from tire and inspects tire casing for defects, such as holes and tears.

### **49-9011. 00 Mechanical Door Repairers Entry – Mid – Senior level position assuming education and experience prerequisite**

Installs doorframes, door closers and electronic-eye mechanisms, using power tools, hand tools, and electronic test equipment. Sets in and secures floor treadle for door activating mechanism and connects power pack and electrical panel board to treadle. Studies blueprints and schematic diagrams to determine method of installing and repairing automated door openers. Bores and cuts holes in flooring, using hand tools and power tools. Covers treadle with carpeting or other floor covering materials and tests system by stepping on treadle. Cleans door closer parts, using caustic soda, rotary brush, and grinding wheel. Lubricates door closer oil chamber and packs spindle with leather washer. Repairs, replaces, or fabricates worn or broken parts, using welder, lathe, drill press, and shaping and milling machines. Removes or disassembles defective automatic mechanical door closers, using hand tools.

### **49-9031. 01 Home Appliance Installers Entry – Mid – Senior level position assuming education and experience prerequisite**

Observes and tests operation of appliances, such as refrigerators, washers, and dryers, and makes initial installation adjustments accordingly. Disassembles and re-installs existing kitchen cabinets and assembles and installs prefabricated kitchen cabinets in conjunction with appliance installation. Levels washing machines and connects hoses to water pipes, using plumbing and other hand tools. Lights and adjusts pilot lights on gas stoves and examines valves and burners for gas leakage and specified flame. Advises customers regarding use and care of appliance and provides them with emergency service number. Levels refrigerators, adjusts doors, and connects water lines to water pipes for ice makers and water dispensers, using hand tools.

### **49-9041. 00 Industrial Machinery Mechanics Entry – Mid – Senior level position assuming education and experience prerequisite**

Confers with operators and observes, tests, and evaluates operation of machinery and equipment to diagnose cause of malfunction. Disassembles machinery and equipment to remove parts and make repairs. Repairs, replaces, adjusts, and aligns components of machinery and equipment. Examines parts for defects, such as breakage or excessive wear. Fabricates replacement parts. Orders or requisitions parts and materials. Enters codes and instructions to program computer-controlled machinery. Records repairs and maintenance performed. Repairs and replaces electrical wiring and components of machinery. Welds to repair broken metal parts, fabricate new parts, and assemble new equipment. Test-runs repaired machinery and equipment to verify adequacy of repairs. Cleans and lubricates parts, equipment, and machinery.

### **49-9042. 00 Maintenance and Repair Workers, General Entry – Mid level position assuming education and experience prerequisite**



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Inspects and tests machinery and equipment to diagnose machine malfunctions. Dismantles and reassembles defective machines and equipment. Installs new or repaired parts. Installs and/or repairs wiring and electrical and electronic components. Installs machinery and equipment. Assembles, installs, and/or repairs pipe systems and hydraulic and pneumatic equipment. Estimates costs of repairs. Records repairs made and costs. Fabricates and repairs counters, benches, partitions, and other wooden structures, such as sheds and outbuildings. Operates cutting torch or welding equipment to cut or join metal parts. Sets up and operates machine tools to repair or fabricate machine parts, jigs and fixtures, and tools. Lays brick to repair and maintain physical structure of establishment. Paints and repairs woodwork and plaster. Assembles, installs, and/or repairs plumbing. Cleans and lubricates shafts, bearings, gears, and other parts of machinery.

### **49-9043. 00 Maintenance Workers, Machinery Entry – Mid level position assuming education and experience prerequisite**

Sets up and operates machine and adjusts controls that regulate operational functions to ensure conformance to specifications. Installs, replaces, or changes machine parts and attachments, according to production specifications. Lubricates, oils, or applies adhesive, or other material to machines, machine parts, or other equipment, according to specified procedures. Replaces or repairs metal, wood, leather, glass, or other lining in machine or equipment compartments or containers. Dismantles machine, removes machine parts, and reassembles machine, using hand tools, chain falls, jack, crane, or hoist. Inspects or tests damaged machine parts and marks defective area or advises supervisor of need for repair. Records and maintains production, repair, and machine maintenance information. Marks, separates, ties, aligns, threads, attaches, or inserts material or product preparatory to machine operation or to identify machine process. Measures, mixes, prepares and tests chemical solutions used to clean or repair machinery and equipment, according to product specifications. Communicates with or assists other workers to repair or move machines, machine parts or equipment. Replaces, empties, or replenishes empty machine and equipment containers, such as gas tanks or boxes. Removes hardened material from machine or machine parts, using abrasives, power and hand tools, jackhammer, sledgehammer, or other equipment. Reads work orders and specifications to determine machines and equipment requiring repair or maintenance. Cleans machine and machine parts, using cleaning solvent, cloth, air gun, hose, vacuum, or other equipment. Collects and discards worn machine parts and other garbage to maintain machinery and work areas. Transports machine parts, tools, equipment and other material between work areas and storage, using crane, hoist, or dolly. Inventories and requisitions machine parts, equipment, and other supplies to replenish and maintain stock. Cuts, shapes, smooths, attaches or assembles pieces of metal, wood, rubber, or other material repair and maintenance machines and equipment. Starts machine and observes mechanical operation to determine efficiency and to detect defects, malfunctions, or other machine damage.

### **49-9092. 00 Commercial Divers Entry – Mid – Senior level position assuming education and experience prerequisite**

Descends into water with aid of diver helper, using scuba gear or diving suit. Cuts and welds steel using underwater welding equipment. Repairs ships and other structures below the waterline, using caulk, bolts, and hand tools. Levels rails, using wedges and maul or sledgehammer. Photographs underwater structures or marine life. Drills holes in rock and rigs explosives for underwater demolitions. Sets or guides placement of pilings and sandbags to provide support for structures, such as docks, bridges, cofferdams, and platforms. Removes obstructions from strainers and marine railway or launching ways, using pneumatic and power hand tools. Communicates with surface while underwater by signal line or telephone. Searches for lost or sunken objects, such as bodies, torpedoes, equipment, and ships. Recovers objects by placing rigging around sunken objects and hooking rigging to crane lines. Inspects docks, hulls and propellers of ships, and underwater pipelines, cables, and sewers.

### **49-9095. 00 Manufactured Building and Mobile Home Installers Entry – Mid – Senior level position assuming education and experience prerequisite**

Locates and repairs frayed wiring, broken connections, or incorrect wiring, using ohmmeter, soldering iron, tape, and hand tools. Repairs plumbing and propane gas lines, using caulking compounds and plastic or copper pipe. Removes damaged exterior panels, repairs and replaces structural frame members, and seals leaks, using hand tools. Connects electrical system to outside power source and activates switches to test operation of appliances and light fixtures. Confers with customer or reads work order to determine nature and extent of damage to unit. Connects water hose to inlet pipe of plumbing system and tests operation of toilets and sinks. Seals open side of modular units to prepare them for shipment, using polyethylene sheets, nails, and hammer. Resets hardware, using chisel, mallet, and screwdriver. Refinishes wood surfaces on cabinets, doors, moldings, and floors, using power sander, putty, spray equipment, brush, paints, or varnishes. Opens and closes doors, windows, and drawers to test their operation and trims edges to fit, using jack-plane or drawknife. Lists parts needed, estimates costs, and plans work procedure, using parts list, technical



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manuals, and diagrams. Repairs leaks with caulking compound or replaces pipes, using pipe wrench. Inspects, examines, and tests operation of parts or systems to be repaired and to verify completeness of work performed.

### **49-9096. 00 Riggers Entry – Mid – Senior level position assuming education and experience prerequisite**

Selects gear, such as cables, pulleys, and winches, according to load weight and size, facilities, and work schedule. Test rigging, to ensure safety and reliability. Signals or gives verbal directions to workers engaged in hoisting and moving loads, to ensure safety of workers and materials. Cleans and dresses machine surfaces and component parts. Controls movement of heavy equipment through narrow openings or confined spaces. Aligns, levels, and anchors machinery. Manipulates rigging lines, hoists, and pulling gear, to move or support materials, such as heavy equipment, ships, or theatrical sets. Dismantles, maintains, and stores rigging equipment. Fabricates and repairs rigging, such as slings, tackle, and ladders, using hand and power tools. Assembles and installs supporting structures, rigging, hoists, and pulling gear, using hand and power tools. Attaches pulleys and blocks to fixed overhead structures, such as beams, ceilings, and gin pole booms with bolts and clamps. Attaches load to rigging, to provide support or prepare for moving, using hand and power tools.

### **49-9098. 00 Helpers--Installation, Maintenance, and Repair Workers Entry level position assuming education and experience prerequisite**

Helps mechanics and repairers maintain and repair vehicles, industrial machinery, and electrical and electronic equipment. Transfers equipment, tools, parts, and other objects to and from workstations and other areas, using hand tools, power tools, and moving equipment. Installs or replaces machinery, equipment, and new or replacement parts and instruments, using hand tools or power tools. Applies protective materials to equipment, components, and parts to prevent defects and corrosion. Positions vehicles, machinery, equipment, physical structures, and other objects, for assembly or installation, using hand tools, power tools, and moving equipment. Builds or erects and maintains physical structures, using hand tools or power tools. Examines and tests machinery, equipment, components, and parts for defects and to ensure proper functioning. Tends and observes equipment and machinery to verify efficient and safe operation. Adjusts and connects or disconnects wiring, piping, tubing, and other parts, using hand tools or power tools. Assembles and disassembles machinery, equipment, components, and other parts, using hand tools and power tools. Furnishes tools, parts, equipment, and supplies to other workers. Cleans or lubricates vehicles, machinery, equipment, instruments, tools, work areas, and other objects, using hand tools, power tools, and cleaning equipment.

### **51-2092. 00 Team Assemblers Entry – Mid – Senior level position assuming education and experience prerequisite**

Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Team leaders who work as part of the team should be included.

### **51-3011. 01 Bakers, Bread and Pastry Entry – Mid level position assuming education and experience prerequisite**

Weighs and measures ingredients, using measuring cups and spoons. Mixes and cooks pie fillings, and pours fillings into pie shells and tops filling with meringue or cream. Spreads or sprinkles toppings on loaves or specialties and places dough in oven, using long-handled paddle (peel). Mixes ingredients to make icings, decorates cakes and pastries, and blends colors for icings, shaped ornaments, and statuary. Cuts, peels, and prepares fruit for pie fillings. Covers filling with top crust; places pies in oven; and adjust drafts or thermostatic controls to regulate oven temperatures. Checks production schedule to determine variety and quantity of goods to bake. Molds dough in desired shapes, places dough in greased or floured pans, and trims overlapping edges with knife. Mixes ingredients to form dough or batter by hand or using electric mixer. Rolls and shapes dough, using rolling pin and cuts dough in uniform portions with knife, divider, cookie cutter.

### **51-3011. 02 Bakers, Manufacturing Entry – Mid level position assuming education and experience prerequisite**

Measures flour and other ingredients to prepare batters, dough, fillings, and icings, using scale and graduated containers. Observes color of products being baked and adjusts oven temperature. Applies glaze, icing, or other topping to baked goods, using spatula or brush. Develops new recipes for cakes and icings. Rolls, cuts, and shapes dough to form sweet rolls, pie crusts, tarts, cookies, and related products prior to baking. Dumps ingredients into mixing-machine bowl or steam kettle to mix or cook ingredients according to specific instructions. Places dough in pans, molds, or on sheets, and bakes dough in oven or on grill. Decorates cakes.

### **51-3021. 00 Butchers and Meat Cutters Entry – Mid – Senior level position assuming education and experience prerequisite**



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Cuts, trims, bones, ties, and grinds meats, such as beef, pork, poultry, and fish, to prepare meat in cooking form. Records quantity of meat received and issued to cooks. Estimates requirements and requisitions or orders meat supply. Shapes, laces, and ties roasts, using boning knife, skewer, and twine. Wraps and weighs meat for customers and collects money for sales. Receives, inspects, and stores meat upon delivery. Places meat on trays in display counter.

### **51-3022. 00 Meat, Poultry, and Fish Cutters and Trimmers Entry – Mid – Senior level position assuming education and experience prerequisite**

Trims, slices and sections carcasses for future processing. Cleans carcasses and removes waste products or defective portions. Slaughters live animals. Obtains and distributes specified meat or carcass. Seals containers of meat. Weighs meats and tags containers for weight and contents. Separates meats and byproducts into specified containers. Inspects meat products for defects or blemishes. Cuts and trims meat to prepare for packing. Removes parts such as skin, feathers, scales or bones from carcass.

### **51-3023. 00 Slaughterers and Meat Packers Entry – Mid level position assuming education and experience prerequisite**

Trims head meat and otherwise severs or removes parts of animals heads or skulls. Trims, cleans, and/or cures animal hides. Grinds meat into sausage. Slaughters animals in accordance with religious law and determines that carcasses meet specified religious standards when slaughtering is performed for religious purposes. Slits open, eviscerates, and trims carcasses of slaughtered animals. Cuts, trims, skins, sorts, and washes viscera of slaughtered animals to separate edible portions from offal. Washes and/or shaves carcasses. Shackles hind legs of animals to raise them for slaughtering or skinning. Severs jugular vein to drain blood and facilitate slaughtering. Saws, splits, or scribes slaughtered animals to reduce carcasses. Skins sections of animals or whole animals. Removes bone and cuts meat into standard cuts to prepare meat for marketing. Wraps dressed carcasses and/or meat cuts. Stuns animals prior to slaughtering.

### **51-3091. 00 Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Observes temperature, humidity, and pressure gauges, or product, and adjusts controls and turns valves to maintain prescribed operating conditions. Cleans equipment, with steam, hot water, and hose. Takes sample of product during or after process for laboratory analysis. Installs equipment, such as spray unit, cutting blades, or screens, using hand tools. Pushes racks or carts to transfer product to storage or for further processing. Clears or dislodges blockages in bins, screens, or other equipment, using pole, brush, or mallet. Observes and listens for machine malfunctions, and notifies supervisor when corrective actions fail. Records production data, such as weight and amount of product processed, type of product, and time and temperature of processing. Reads work order to determine quantity and type of product to be baked, dried, or roasted. Fills or removes product from trays, carts, hoppers, or equipment, using scoop, peel, or shovel, or by hand. Weighs product, using scale hopper or scale conveyor. Observes, feels, or tastes products after processing to ensure products conform to standards. Smooths out product in bin, tray, or conveyor, using rake or shovel. Tests product for moisture content, using moisture meter. Opens valve, discharge gates, or hopper chutes, to load or remove product from oven or equipment. Sets temperature and time controls, lights ovens or gas burners, and starts equipment, such as conveyors, blowers, driers, or pumps.

### **51-3092. 00 Food Batchmakers Entry – Mid level position assuming education and experience prerequisite**

Calculates ingredient amounts to formulate or modify recipes to produce food product of specific flavor, texture, clarity, bouquet, and color. Homogenizes or pasteurizes material to prevent separation of substances or to obtain prescribed butterfat content. Separates, spreads, kneads, spins, casts, cuts, or rolls food product by hand or using machine. Gives directions to other workers who are assisting in batchmaking process. Records amounts of ingredients used, test results, and time cycles. Grades food product according to government regulations or according to type, color, bouquet, and moisture content. Cools food product batch on slabs or in water-cooled kettle. Tests food product sample for moisture content, acidity level, or butterfat content. Examines, feels, and tastes product to evaluate color, texture, flavor, and bouquet. Mixes or blends ingredients, according to recipe, using paddle or agitator. Stirs and cooks ingredients at specified temperatures. Operates refining machine to reduce size of cooked batch. Measures and weighs ingredients, using English or metric measures and balance scales. Determines mixing sequence, based on knowledge of temperature effects and solubility and miscibility properties of specific ingredients. Fills processing or cooking container, such as water-cooled kettle, steam-jacketed rotating cooker, pressure cooker, or vat, with ingredients, following recipe.

### **51-3093. 00 Food Cooking Machine Operators and Tenders Entry – Mid level position assuming education and experience prerequisite**



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Starts conveyers, machines or pumps and sets temperature, pressures and time controls. Records production and test data, such as processing steps, temperature and steam readings, cooking time, batches processed, and test results. Cleans and washes equipment, using water hoses, cleaning or sterilizing solutions or rinses. Removes cooked material or products from equipment. Notifies or signals other workers to operate equipment or when processing complete. Examines sample of product, tests color, content, consistency, viscosity, acidity, or specific gravity, and removes impurities from product. Pours, adds or loads prescribed quantities of ingredients or products into cooking equipment, manually or using hoist. Measures or weighs prescribed ingredients, using scales or measuring containers. Listens for malfunction alarms, shuts down equipment, and notifies supervisor. Places products on conveyor or cart and monitors flow. Observes gauges, dials and product texture or color and adjusts controls to maintain appropriate temperature, pressure and flow of ingredients. Admits required amounts of water, steam, cooking oils or compressed air into equipment. Turns valves or starts pumps to drain product from equipment and transfer to storage, cooling or further processing areas. Reads recipes or formulae to determine ingredients or quantities of ingredients needed. Operates auxiliary machines and equipment such as grinders, canners and molding presses, to prepare or further process products. Operates and controls equipment such as, kettles, cookers, vats and tanks, to cook ingredients or prepare products for further processing. Activates agitators and paddles to mix or stir ingredients and stops machine when ingredients are thoroughly mixed.

### **51-4023. 00 Rolling Machine Setters, Operators, and Tenders, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts operation of rolling and milling machines to flatten, temper, form, and reduce sheet metal sections and produce steel strips. Installs equipment, such as guides, guards, gears, cooling equipment and rolls, using hand tools. Examines, inspects, measures, and feels raw materials and finished product to verify conformance to specifications, visually or using measurement instruments. Fills oil cups, adjusts valves, and observes gauges to control flow of metal coolant and lubricants onto work piece. Signals and assists other workers to remove and position equipment, fill hoppers, and feed materials into machine. Directs and trains other workers to change rolls, operate mill equipment, remove coils and cobbles, and band and load material. Records mill production on schedule sheet. Removes scratches and polishes roll surface, using polishing stone and electric buffer. Disassembles sizing mills removed from rolling line, and sorts and stores parts. Activates shear and grinder to trim work piece, cut steel strips, and monitor forming of gears to specified length and diameter. Threads or feeds sheets or rods through rolling mechanism, or starts and controls mechanism that automatically feeds steel into rollers. Calculates draft space and roll speed for each mill stand to plan rolling sequence and specified dimensions and temper. Reads rolling order and mill schedules to determine setup specifications, work sequence, product dimensions, and installation procedures. Positions, aligns, and secures arbor, spindle, coils, mandrel, dies, and slitting knives onto machine. Resets, adjusts, and corrects machine set-up to reduce thickness, reshape products, and eliminate product defects. Monitors machine cycles and mill operation to detect jamming and to ensure fabricated products conform to specifications. Sets distance points between rolls, guides, meters, and stops, according to specifications. Selects rolls, dies, roll stands, and chucks from data charts to form specified contours and to fabricate products. Manipulates controls and observes dial indicators to monitor, adjust, and regulate speed of machine mechanisms.

### **51-4031. 01 Sawing Machine Tool Setters and Set-Up Operators, Metal and Plastic Mid – Senior level position assuming education and experience prerequisite**

Turns controls to set cutting speed, feed rate, and table angle for specified operation. Scribes reference lines on work piece as guide for sawing operations, according to blueprints, templates, sample parts, or specifications. Replaces defective blades or wheels, using hand tools. Places work piece on cutting table, manually or using hoist, and clamps work piece into position. Measures completed work piece to verify conformance to specifications, using micrometers, gauges, calipers, templates, or rulers. Marks identifying data on work pieces. Examines completed work pieces for defects, such as chipped edges and marred surfaces, and sorts defective pieces according to defect. Removes housings, feed tubes, tool holders, and other accessories to replace worn or broken parts, such as springs and bushings. Sharpens dulled blades, using bench grinder, abrasive wheel, or lathe. Reads work order for specifications, such as materials to be used, location of cutting lines, and dimensions and tolerances. Positions guides, stops, holding blocks, or other fixtures to secure and direct work piece, using hand tools and measuring devices. Sets blade tension, height, and angle to perform prescribed cut, using wrench. Turns valves to start flow of coolant against cutting area and to start airflow, which blows cuttings away from kerf. Selects blade according to specifications and installs on machine, using hand tools. Starts machine and feeds work piece against blade, guiding along layout lines, to cut work piece to specified dimensions.

### **51-4031. 02 Punching Machine Setters and Set-Up Operators, Metal and Plastic Mid – Senior level position assuming education and experience prerequisite**



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Activates machine and observes operation to detect misalignment or machine malfunctions. Installs, aligns and locks specified punches, dies and cutting blades in ram or bed of machine, using gauges and hand tools. Sets stops or guides or installs jigs or fixtures for positioning successive work pieces. Measures work piece with rule or tape, or traces from template and marks location with scribe, soapstone, or center punch. Inspects work pieces for conformance to specifications, visually or using gauges or templates, scale, compass and adjusts machine to correct errors. Cleans and lubricates machines. Reads job order to determine location of holes or cutting lines. Sets controls or installs gears to synchronize action of feed bar or rollers. Adjusts ram stroke of press to specified length, using hand tools. Positions, aligns, and secures work piece against fixtures or stops on machine bed or on die.

### **51-4031. 03 Press and Press Brake Machine Setters and Set-Up Operators, Metal and Plastic Mid – Senior level position assuming education and experience prerequisite**

Sets stops on machine bed, changes dies, and adjusts components, such as ram or power press, when making multiple or successive passes. Measures work piece and verifies dimensions and weight, using micrometer, template, straightedge, and scale. Plans sequence of operations, applying knowledge of physical properties of metal. Lifts, positions, and secures work piece between dies of machine, using crane and sledge. Grinds out burrs and sharp edges, using portable grinder, speed lathe, and polishing jack. Hand forms, cuts, or finishes work piece, using tools, such as table saw, hand sledge and anvil, flaring tool, and gauge. Lubricates work piece with oil. Preheats work piece, using heating furnace or hand torch. Inspects work piece for defects. Installs, aligns, and secures gears, holding fixtures, dies to machine bed, using gauges, templates, feelers, shims, and hand tools. Operates power press, power brake, apron brake, swaging machine, foot-powered press, hydraulic press, or arbor press according to specifications. Selects and positions flat, block, radius, or special purpose die sets into ram and bed of machine, using hoist, crane, measuring instruments and hand tools.

### **51-4031. 04 Shear and Slitter Machine Setters and Set-Up Operators, Metal and Plastic Mid – Senior level position assuming education and experience prerequisite**

Installs and aligns knives, disk cutters or fixtures to shear, bevel, or trim fabricated items. Hones cutters with oilstone to remove nicks. Observes machine operation and examines cut strips for flatness, holes, burrs, and surface defects. Lubricates and cleans machine. Lifts work piece manually or by hoist, and positions and secures against guides and stops. Lays out cutting lines on metal stock to obtain maximum number of pieces from stock. Measures dimensions of work piece, using tape, gauge, template, or rule and square, for conformance to specifications. Tests and adjusts cutting speed and action, according to specified length of product, using gauges and hand tools. Operates shear or slitter that cuts or shears metal, such as plates, sheets, slabs, billets, or bars, to size. Reads production schedule to determine setup or adjustment of equipment. Threads end of metal coil from reel through slitter and secures ends on recoiler. Selects, cleans, and installs spacers, rubber sleeves, and cutter on arbors. Starts machine, adjusts blade and controls, using wrenches, rule, gauge, or template, and monitors operation.

### **51-4032. 00 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates single- or multiple-spindle drill press to bore holes to perform machining operations on metal, nonmetallic, or plastic work pieces. Studies machining instructions to determine dimensional and finish specifications, sequence of operation, setup, and tooling requirements. Installs tool in spindle. Selects cutting tool according to instructions and knowledge of metal properties. Operates tracing attachment to duplicate contours from templates or models. Lifts work piece either manually or with hoist onto machine table, or directs crane operator to lift and position work piece. Verifies conformance of machined work to specifications, using measuring instruments, such as calipers, micrometers, and fixed and telescoping gauges. Positions and secures work piece on table with bolts, jigs, clamps, shims, or other holding devices, using machining hand tools. Lays out reference lines and machining locations on work, applying knowledge of shop math and layout techniques, using layout tools.

### **51-4033. 01 Grinding, Honing, Lapping, and Deburring Machine Set-Up Operators Mid – Senior level position assuming education and experience prerequisite**

Moves machine controls to index work piece and adjust machine for pre-selected operational settings. Activates machine start-up switches to grind, lap, hone, debar, shear, or cut work piece, according to specifications. Computes machine indexing and settings for specified dimension and base reference points. Observes and adjusts machine operation. Mounts and positions tools in machine chuck, spindle, or other tool holding device to specifications, using hand tools. Grinds, sharpens, or hones tools, dies, and products to prescribed dimensions, using power tools, hand tools, and precision measuring instruments. Lifts and positions work piece manually or with hoist, and secures in hopper, on machine table, faceplate or chuck, using clamps. Inspects or measures work piece, using measuring instruments, such



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as gauges or micrometers for conformance to specifications. Maintains stock of machine parts and machining tools. Repairs or replaces machine parts, using hand tools or notifies engineering personnel when corrective action is required. Brushes or sprays lubricating compound on work piece or turns valve handle and directs flow of coolant against tool and work piece. Measures work pieces and lays out work, using precision measuring devices. Studies blueprints, work order, or machining instructions to determine product dimensions, tooling, and to plan operational sequence. Selects machine tooling to be used in machine operation, utilizing knowledge of machine and production requirements. Threads and hand feeds materials through machine cutters or abraders.

### **51-4033. 02 Buffing and Polishing Set-Up Operators Mid – Senior level position assuming education and experience prerequisite**

Sets and adjusts machine controls according to product specifications, utilizing knowledge of machine operation. Repairs or replaces machine parts to maintain machine in operational condition. Removes work piece and examines finish or luster to ensure surface meets specifications. Starts and observes machine operation for conformance to specifications. Selects buffing or polishing tools and positions and mounts tools to machine tool, chuck, or jig, using hand tools. Reads work order to determine parts to be buffed or polished. Holds stick of buffing compound or turns valve and depresses pedal to administer coolant to work piece surface. Selects and attaches work piece-holding fixture to drive mechanism, and positions or clamps work piece to fixture.

### **51-4034. 00 Lathe and Turning Machine Tool Setters, Operators, and Tenders Metal and Plastic Mid – Senior level position assuming education and experience prerequisite**

Installs holding fixtures, cams, gears, and stops to control stock and tool movement, using hand tools, power tools, and measuring instruments. Moves tool holder manually or by turning hand wheel, or engages automatic feeding mechanism, to feed tools to and along work piece. Selects cutting tools and tooling instructions, according to knowledge of metal properties and shop mathematics, or written specifications. Positions, secures, and aligns cutting tools in tool holders on machine, using hand tools, and verifies their position with measuring instruments. Observes operation and stops machine to inspect finished work piece and verify conformance with specifications of first-run, using measuring instruments. Mounts attachments, such as relieving or tracing attachments, to perform operations, such as duplicating contours of template or trimming work piece. Studies blueprint, layout, or chart, to visualize work and determine materials needed, sequence of operations, dimensions, and tooling instructions. Computes unspecified dimensions and machine settings, using knowledge of metal properties and shop mathematics. Lifts metal stock or work piece manually or using hoist, and positions and secures it in machine, using fasteners and hand tools. Replaces worn tools and sharpens dull cutting tools and dies. Moves controls to set cutting speeds and depths, and feed rates and to position tool in relation to workplace. Cranks machine through cycle, stopping to adjust tool positions and machine controls, to ensure specified timing, clearance, and tolerances. Starts machine, and turns valve handle to direct flow of coolant on work area or coats disk with spinning compound.

### **51-4051. 00 Metal-Refining Furnace Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Manipulates controls to ignite burners, adjust fuel mixtures, open and close furnace doors, or to load and discharge materials into or from furnace. Regulates supply of fuel and air or controls flow of electric current and water coolant to heat furnaces. Observes color and fluidity of molten metal and obtains test sample of metal from furnace or kettle for analysis. Sprinkles chemicals over molten metal to bring impurities to surface and removes impurities, using strainers. Inspects furnace and equipment for defects and wear and directs work-crew in cleaning and repairing furnace walls and flooring. Draws smelted metal samples from furnace for analysis and calculates type and amount of material required to correct smelting process. Scrapes accumulations of metal oxides from floors, molds, and crucibles and sifts and stores for reclamation. Weighs materials to be charged into furnace or to maintain prescribed weight, using scales. Records data and maintains production logs. Examines and prepares material to load into furnace, including cleaning, crushing, or applying chemicals, using crushing machine, shovel, rake, or sprayer. Analyzes metal test sample, according to specific instructions and for specific and for specific element content. Drains, transfers, or removes molten metal from furnace or into molds by hoist or pumps or ladles. Observes inside of furnace operations by television screen and operates controls to move or discharge metal work piece. Observes air and temperature gauges or metal color and turns fuel valves or adjusts controls to maintain required temperature. Kindles fire and shovels fuels and other materials into furnaces or onto conveyors by hand, with hoists, or by directing crane operator.

### **51-4052. 00 Pourers and Casters, Metal Entry – Mid – Senior level position assuming education and experience prerequisite**

Pours molten metal into molds and forms, using ladle. Turns valves to circulate water through core or sprays water on filled molds to cool and solidify metal. Assembles and imbeds cores in casting frames, using hand tools and equipment.





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Collects samples or signals workers to sample metal for analysis. Removes metal ingots or cores from molds, using hand tools, cranes, and chain hoists. Transports metal ingots to storage areas, using forklift. Repairs and maintains metal forms and equipment, using hand tools, sledges, and bars. Stencils identifying information on ingots and pigs, using special hand tools. Examines molds to ensure they are clean, smooth, and properly coated. Loads specified amount of metal and flux into furnace or clay crucible. Skims slag or removes excess metal from ingots or equipment, using hand tools, strainers, rakes, or burners, and recycles scrap. Positions equipment or signals workers to position equipment such as ladles, grinding wheels, or crucibles. Reads temperature gauges, observes color changes, and adjusts furnace flame, torch, or electrical heating unit to melt metal. Adds metal to molds to compensate for shrinkage.

### **51-4071. 00 Foundry Mold and Coremakers Entry – Mid – Senior level position assuming education and experience prerequisite**

Forms and assembles slab cores around pattern and positions wire in mold sections to reinforce mold, using hand tools and glue. Cuts spouts, runner holes, and sprue holes into mold. Positions patterns inside mold sections and clamps sections together. Lifts upper mold section from lower and removes molded patterns. Cleans and smooths molds, cores, and core boxes, and repairs surface imperfections. Moves and positions work pieces, such as mold sections, patterns, and bottom boards, using cranes, or signals others to move work pieces. Pours molten metal into mold, manually or using crane ladle. Rotates sweep board around spindle to make symmetrical molds for convex impressions. Operates ovens to bake cores or furnaces to melt, skim, and flux metal. Sprinkles or sprays parting agent onto pattern and mold sections, to facilitate removal of pattern from mold. Sifts sand and packs sand into mold sections, core box, and pattern contours, using hand or pneumatic ramming tools. Positions cores into lower section of mold and reassembles mold for pouring.

### **51-4072. 01 Plastic Molding and Casting Machine Setters and Set-Up Operators Mid – Senior level position assuming education and experience prerequisite**

Positions, aligns, and secures assembled mold, mold components, and machine accessories onto machine press bed, and attaches connecting lines. Presses button or pulls lever to activate machine to inject dies and compress compounds to form and cure specified products. Sets machine controls to regulate molding temperature, volume, pressure, and time, according to knowledge of plastics and molding procedures. Installs dies onto machine or press and coats dies with parting agent, according to work order specifications. Reads specifications to determine setup and prescribed temperature and time settings to mold, form, or cast plastic materials. Observes and adjusts machine set up and operations to eliminate production of defective parts and products. Measures and visually inspects products for surface and dimension defects, using precision measuring instruments, to ensure conformance to specifications. Mixes catalysts, thermoplastic materials, and coloring pigments according to formula, using paddle and mixing machine. Repairs and maintains machines and auxiliary equipment, using hand tools and power tools. Trims excess material from part, using knife, and grinds scrap plastic into powder for reuse. Removes finished or cured product from dies or mold, using hand tools and air hose. Weighs premixed compounds and dumps compound into die well or fills hoppers of machines that automatically supply compound to die.

### **51-4072. 02 Plastic Molding and Casting Machine Operators and Tenders Entry – Mid level position assuming education and experience prerequisite**

Starts machine that automatically liquefies plastic material in heating chamber, injects liquefied material into mold, and ejects molded product. Turns valves and dials of machines to regulate pressure and temperature, to set press-cycle time, and to close press. Observes continuous operation of automatic machine and width and alignment of plastic sheeting to ensure side flanges. Pulls level and toggle latches to fill mold and regulate tension on sheeting and to release mold covers. Dumps plastic powder, preformed plastic pellets, or preformed rubber slugs into hopper of molding machine. Feels stiffness and consistency of molded sheeting to detect machinery malfunction. Breaks seals that hold plastic product in molds, using hand tool, and removes product from mold. Heats plastic material prior to forming product or cools product after processing to prevent distortion. Weighs prescribed amounts of material for molded part and finished product to ensure specifications are maintained. Removes product from mold or conveyor, and cleans and reloads mold. Positions mold frame to correct alignment and tubs containing mixture on top of mold to facilitate loading of molds. Examines molded product for surface defects, such as dents, bubbles, thin areas, and cracks. Fills tubs, molds, or cavities of machine with plastic material in solid or liquid form prior to activating machine. Trims flashing from product. Signals coworker to synchronize feed of materials into molding process. Throws flash and rejected parts into grinder machine to be recycled. Reports defect in molds to supervisor. Stacks molded parts in boxes or on conveyor for subsequent processing or leaves parts in mold to cool. Mixes and pours liquid plastic into rotating drum of machine that spreads, hardens, and shapes mixture. Observes meters and gauges to verify specified temperatures, pressures, and press-cycle times.



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### **51-4072. 03 Metal Molding, Coremaking, and Casting Machine Setters and Set-Up Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Moves controls to start, set, or adjust casting, molding, or pressing machines. Repairs or replaces worn or defective machine parts and dies. Obtains and moves specified pattern to work station, manually or using hoist, and secures pattern to machine, using wrenches. Removes castings from dies and dips castings in water to cool, using pliers or tongs. Preheats die sections with torch or electric heater. Stacks and mounts rotor core laminations over keyed mandrel of casting machine, and removes and stamps rotor with identifying data. Lines cylinder pot with asbestos strips and disk to prevent chilling. Loads metal ingots or aluminum bars into melting furnace, and transfers molten metal to reservoir of die casting machine. Connects water hose to cooling system of die, using hand tools. Cleans and lubricates casting machine and dies, using air hose and brushes. Inspects castings and core slots for defects, using fixed gauges. Loads die sections into machine, using equipment such as chain fall or hoist, and secures in position, using hand tools. Pours molten metal into cold-chamber machine or cylinders, using hand ladle.

### **51-4072. 04 Metal Molding, Coremaking, and Casting Machine Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts and operates furnace, oven, die casting, coremaking, metal molding, or rotating machines to pour metal or create molds and casts. Positions ladles or pourers and adjusts controls to regulate the flow of metal, sand, or coolant into mold. Removes casting from mold, mold from press, or core from core box, using tongs, pliers, hydraulic ram, or by inversion. Pours or loads metal or sand into melting pot, furnace, mold, core box or hopper, using shovel, ladle, or machine. Observes and records data from pyrometers, lights, and gauges to monitor molding process and adjust furnace temperature. Signals or directs other workers to load conveyor, spray molds, or remove ingots. Requisitions molds and supplies and inventories and records finished products. Weighs metals and powders and computes amounts of materials necessary to produce mixture of specified content. Smooths and cleans inner surface of mold, using brush, scraper, air hose, or grinding wheel, and fills imperfections with refractory material. Sprays, smokes, or coats molds with compounds to lubricate or insulate mold, using acetylene torches or sprayers. Skims or pours dross, slag, or impurities from molten metal, using ladle, rake, hoe, spatula, or spoon. Assembles shell halves, patterns, and foundry flasks, and reinforces core boxes, using glue, clamps, wire, bolts, rams, or machines. Inspects metal casts, and molds for cracks, bubbles, or other defects and measures castings to ensure specifications met. Repairs or replaces damaged molds, pipes, belts, chains, or other equipment, using hand tools, hand-powered press, or jib crane. Cleans, glues, and racks cores, ingots, or finished products for storage. Cuts spouts and pouring holes in molds and sizes hardened cores, using saws. Fills core boxes and mold patterns with sand or powders, using ramming tools or pneumatic hammers, and removes excess. Positions, aligns, and secures molds or core boxes in holding devices or under pouring spouts and tubes, using hand tools.

### **51-4072. 05 Casting Machine Set-Up Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Sets up matrices in assembly stick by hand according to specifications. Stops machine when galley is full or when strip is completed. Inserts and locks galley or matrix case into place on machine. Positions composing stick to length of line specified in casting instructions. Forwards galley to appropriate personnel for proofing. Removes and stores assembly stick, controller reel, and matrix case. Places reel of controller paper on holder, threads around reels, and attaches to winding roll. Starts machine and monitors operation for proper functioning.

### **51-4191. 01 Heating Equipment Setters and Set-Up Operators, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Mounts fixtures and industrial coil on machine and work pieces in fixture, using hand tools. Replaces worn dial-feed, burner and conveyor parts, using hand tools. Crushes random samples between fingers to determine hardness. Instruct new workers in machine operation. Sets frequency of current and automatic timer. Estimates flame temperature and heating cycle based on degree of hardness required and metal to be treated. Reads work order to determine processing specifications. Visually examines or tests objects, using hardness testing equipment, to determine flame temperature and degree of hardness. Starts conveyors and dial feeder plates, and turns setscrews in nozzles to direct flames which anneal specific area of object. Lights gas burners and adjusts flow of gas and coolant water.

### **51-4191. 02 Heat Treating, Annealing, and Tempering Machine Operators and Tenders, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Sets automatic controls, observes gauges, and operates gas or electric furnace used to harden temper, or anneal metal parts. Covers parts with charcoal before inserting in furnace to prevent discoloration caused by rapid heating. Cleans oxides and scale from parts or fittings, using steam spray or immersing parts in chemical and water baths. Signals forklift operator to deposit or extract containers of parts into and from furnaces and quenching rinse tanks. Tests parts' for



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hardness, using hardness testing equipment, and stamps heat treatment identification mark on part, using hammer and punch. Examines parts to ensure metal shade and color conform to specifications, utilizing knowledge of metal heat-treating. Removes parts from furnace after specified time and air dries or cools parts in water or oil brine or other baths. Adjusts speed and operates continuous furnace through which parts are passed by means of reels and conveyors. Sets up and operates die-quenching machine to prevent parts from warping. Reads production schedule to determine processing sequence and furnace temperature requirements for objects to be heat-treated. Loads parts into containers, closes furnace door, and inserts parts into furnace when specified temperature is reached. Reduces heat and allows parts to cool in furnace. Activates and tends electric furnace that anneals base sections of hardened parts for subsequent machining. Positions part in fixture, presses buttons to light burners and tends flame hardening machine, according to procedures, to case harden metal pa

### **51-4191. 03 Heaters, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Ignites furnace with torch, and turns valve to regulate flow of fuel and air to burners. Positions plastic sheet and mold in plastic bag, heats material under lamps, and forces confrontation of sheet to mold by vacuum pressure. Removes material from furnace, using crane, or signal crane operator to transfer to next station. Positions stock in furnace, using tongs, chain hoist, or pry bar. Assists workers in repairing, replacing, cleaning, lubricating, or adjusting furnace equipment, using hand tools. Records time and production data. Signals coworker to charge steel into furnace. Impregnates fabric with plastic resins and cuts fabric into strips. Pushes cart to curing oven or places part in autoclave. Removes part and cuts away plastic bag. Positions part in plastic bag and seals bag with iron. Removes stock from furnace, using cold rod, tongs or chain hoist, and places stock on conveyor for transport to work area. Places part on cart, connects vacuum line to tube, and smoothes bag around part to ensure vacuum. Adjusts controls to maintain temperature and heating time, using thermal instruments and charts, dials and gauges of furnace, and color of stock. Sets oven controls or turns air-pressure valve or autoclave. Inserts vacuum tube into bag and seals bag around tube with tape. Adjusts controls to synchronize speed of feed and take-off conveyors of furnace. Starts conveyors and opens furnace doors to load stock, or signals crane operator to uncover soaking pits and lower ingots into them.

### **51-4193. 01 Electrolytic Plating and Coating Machine Setters and Set-Up Operators, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Moves controls to permit electro deposition of metal on object or to regulate movement of wire strand to obtain specified thickness. Adjusts voltage and amperage, based on observations. Determines size and composition of object to be plated and amount of electrical current and time required, following work order. Suspends object, such as part or mold, from cathode rod (negative terminal) and immerses object in plating solution. Suspends stick or piece of plating metal from anode (positive terminal) and immerses metal in plating solution. Mixes chemical solutions, fills tanks and charges furnaces. Removes plated object from solution at periodic intervals and observes object to ensure conformance to specifications. Plates small objects, such as nuts or bolts, using motor-driven barrel. Immerses object in cleaning and rinsing baths to complete plating process. Examines object at end of process to determine thickness of metal deposit or measures thickness, using instruments, such as micrometers. Measures, marks, and masks areas excluded from plating. Grinds, polishes, or rinses object in water and dries object to maintain clean even surface.

### **51-4193. 02 Electrolytic Plating and Coating Machine Operators and Tenders, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Measures or estimates amounts of electric current needed and time required to coat objects. Adjusts dials to regulate flow of current and voltage supplied to terminals to control plating process. Positions objects to be plated in frame or suspends them from positive or negative terminals of power supply. Removes object from plating solution after specified time or when desired thickness of metal is deposited on them. Mixes and tests plating solution to specified formula and turns valves to fill tank with solution. Monitors and measures thickness of electroplating on component part to verify conformance to specifications, using micrometer. Mixes forming acid solution, treats battery plates, and removes and rinses formed plates. Immerses objects to be coated or plated into cleaning solutions or sprays with conductive solution to prepare object for plating. Rinses coated object in cleansing liquids and dries with cloth, centrifugal driers, or by tumbling in sawdust filled barrels. Lubricates moving parts of plating conveyor and cleans plating and cleaning solution tanks.

### **51-4193. 03 Non-Electrolytic Plating and Coating Machine Setters and Set-Up Operators, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Measures and sets stops, rolls, brushes, and guides on automatic feeder and conveying equipment or coating machines, using micrometer, rule, and Adjusts controls to set temperatures of coating substance, and adjusts speeds of machines and equipment. Attaches nozzle, positions gun, connects hoses, and threads wire to set up metal-spraying machine.



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Ignites gun and adjusts controls to regulate wire feed, air pressure, and flow of oxygen and fuel to operate metal-spraying machine. Installs gears and holding devices on conveyor equipment. Reads production schedule to determine setup of equipment and machines. Mixes alodize solution in tank of machine, according to formula, and verifies solution concentration, using gauge. Positions work pieces, starts operation of machines and conveyors, and feeds work pieces into machines to be coated. Adjusts controls to synchronize equipment speed with speed of coating or spraying machine. Operates hoist to place work pieces onto machine feed carriage or spindle. Inspects coated products for defects and specified color and coverage. Operates sandblasting equipment to roughen and clean surface of work pieces. Preheats work pieces in oven.

### **51-4193. 04 Non-Electrolytic Plating and Coating Machine Operators and Tenders, Metal and Plastic Entry – Mid – Senior level position assuming education and experience prerequisite**

Observes gauges and adjusts controls of machine to regulate functions, such as speed and temperature, according to specifications. Sprays coating in specified pattern according to instructions and inspects area for defects, such as air bubbles or uneven coverage. Presses or turns controls to activate and set equipment operation according to specifications. Positions and feeds materials on plate into machine, manually or automatically, for processing. Fills machine receptacle with coating material or solution. Immerses work pieces in coating solution for specified time. Mixes coating material or solution according to formula, or uses premixed solutions. Places materials on racks and transfers to oven to dry for a specified period of time. Removes excess material or impurities from objects, using air hose or grinding machine. Cuts metal or other materials, using shears or band saw. Measures or weighs materials, using ruler, calculator, and scale. Positions containers to receive parts, and loads or unloads materials in containers, using dolly or hand truck. Cleans and maintains equipment, using water hose and scraper. Solders equipment and visually examines for completeness. Cleans work pieces, using wire brush. Maintains production records. Replaces worn parts and adjusts equipment components, using hand tools.

### **51-5011. 01 Bindery Machine Setters and Set-Up Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Installs bindery machine devices, such as knives, guides, and clamps to accommodate sheets, signatures or books of specified sizes. Starts machines and makes trial runs to verify accuracy of machine setup. Fills glue pot and adjusts flow of glue and speed of conveyors. Observes and monitors machine operations to detect malfunctions and makes required adjustments. Manually stocks supplies such as signatures, books, or paper. Records time spent on specific tasks and number of items produced, for daily production sheet. Trains workers to set up, operate, and use automatic bindery machines. Removes books or products from machine and stacks them. Cleans and lubricates machinery parts and makes minor repairs. Examines product samples for defects. Reads work order to determine work instructions. Threads wire into machine to load stitcher head for stapling. Positions and clamps stitching heads on crossarms to space stitches to specified lengths. Sets machine controls to adjust length and thickness of folds, stitches or cuts, and to adjust speed and pressure. Mounts and secures rolls or reels of wire, cloth, paper or other material onto machine spindles and fills paper feed.

### **51-5011. 02 Bindery Machine Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates or tends machines that perform binding operations, such as pressing, folding, and trimming on books and related articles. Moves controls to adjust and activate bindery machine to meet specifications. Feeds books and related articles, such as periodicals and pamphlets, into binding machines, following specifications. Stitches or fastens endpapers or bindings, stitches signatures, and applies glue along binding edge of first and last signatures of books. Threads spirals in perforated holes of items to be bound, using spindle or rollers. Opens machine and removes and replaces damaged covers and book, using hand tools. Cleans work area and maintains equipment and workstations, using hand tools. Maintains records of daily production, using specified forms. Wraps product in plastic, using machine, and packs products in boxes. Rolls, bends, smoothes, and folds sheets, using hands, and stacks sheets to be returned to binding machines. Removes printed material or finished products from machines or conveyor belts, and stacks material on pallets or skids. Applies materials on books or related articles, using machine. Creases or compresses signatures before affixing covers, and places paper jackets on finished books. Examines printed material and related products for defects and to ensure conformance to specifications. Punches holes in paper sheets and fastens sheets, signatures, or other material, using hand or machine punch or stapler. Removes broken wire pieces from machine and loads machine with spool of wire. Inserts illustrated pages, extra sheets, and collated sets into catalogs, periodicals, directories, and other printed products, and applies labels to envelopes, using hands or machine. Selects, loads, and adjusts work pieces and machine parts, using hand tools.

### **51-5012. 00 Bookbinders Entry – Mid – Senior level position assuming education and experience prerequisite**



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Applies glue to back of book, using brush or glue machine, and attaches cloth backing and headband. Attaches endpapers to top and bottom of book body, using sewing machine, or glues endpapers and signatures together along spine, using brush or glue machine. Inserts book body in device that forms back edge of book into convex shape and produces grooves to facilitate attachment of cover. Trims edges of book to size, using cutting or book trimming machine or hand cutter. Packs, weighs, and stacks books on pallet for shipment. Places bound book in press that exerts pressure on cover until glue dries. Folds printed sheets to form signatures (pages) and assembles signatures in numerical order to form book body. Compresses sewed or glued signatures to reduce book to required thickness, using hand press or smashing machine. Imprints and embosses lettering, designs, or numbers on cover, using gold, silver, or colored foil and stamping machine. Applies color to edges of signatures, using brush, pad, or atomizer. Glues outside endpapers to cover. Cuts binder board to specified dimension, using board shears, hand cutter, or cutting machine. Cuts cover material to specified dimensions and fits and glues material to binder board manually or by machine.

### **51-5021. 00 Job Printers Entry – Mid – Senior level position assuming education and experience prerequisite**

Selects type from type case and inserts type in printer's stick to reproduce material in copy. Lays form on proof press, inks type, fastens paper to press roller, and pulls roller over form to make proof copy. Pushes button to start press, examines printed sheets, and adjusts press when printing is defective. Corrects errors by resetting type and improves impression by tapping face of type with hammer. Cleans ink rollers at end of run. Sets feed guides according to size and thickness of paper. Fills ink fountain and moves lever to adjust flow of ink. Positions form (type in locked chase) on bed of press and tightens clamps, using wrench. Removes assembled type from galley and places type on composing stone. Places chase over type, inserts quoins, and locks chase to hold type. Slides type from stick into galley. Inserts spacers between words and leads between lines. Reads proof for errors and clarity of impression. Runs proof sheet through press and examines sheet for clarity of impression.

### **51-6011. 03 Laundry and Dry Cleaning Machine Operators and Tenders, Except Pressing Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts washer, dry cleaner, drier, or extractor, and turns valves or levers to regulate and monitor cleaning or drying operations. Tends variety of automatic machines that comb and polish furs; clean, sterilize, and fluff feathers and blankets; and roll and package towels. Removes or directs other workers to remove items from washer or dry cleaning machine and into extractor or tumbler. Adjusts switches to tend and regulate equipment that fumigates and removes foreign matter from furs. Mends and sews articles, using hand stitching, adhesive patch, or power sewing machine. Hangs curtains, drapes, blankets, pants, and other garments on stretch frames to dry, and transports items between specified locations. Irons or presses articles, fabrics, and furs, using hand iron or pressing machine. Receives and marks articles for laundry or dry cleaning with identifying code number or name, using hand or machine marker. Sorts and counts articles removed from dryer and folds, wraps, or hangs items for airing out, pickup, or delivery. Examines and sorts articles to be cleaned into lots, according to color, fabric, dirt content, and cleaning technique required. Pre-soaks, sterilizes, scrubs, spot-cleans, and dries contaminated or stained articles, using neutralizer solutions and portable machines. Washes, dry cleans, or glazes delicate articles or fur garment linings by hand, using mild detergent or dry cleaning solutions. Cleans machine filters and lubricates equipment. Starts pumps to operate distilling system that drains and reclaims dry cleaning solvents. Loads or directs other workers to load articles into washer or dry cleaning machine. Mixes and adds detergents, dyes, bleach, starch, and other solutions and chemicals to clean, color, dry, or stiffen articles.

### **51-9011. 02 Chemical Equipment Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts pumps and agitators, turns valves, or moves controls of processing equipment to admit, transfer, filter, or mix chemicals. Loads specified amounts of chemicals into processing equipment. Weighs, measures, or mixes prescribed quantities of materials. Draws sample of products for analysis to aid in process adjustments and maintain production standards. Drains equipment and pumps water or other solution through to flush and clean tanks or equipment. Inventories supplies received and consumed. Assists other workers in preparing and maintaining equipment. Observes safety precautions to prevent fires and explosions. Notifies maintenance engineer of equipment malfunction. Records data in log from instruments and gauges concerning temperature, pressure, materials used, treating time, and shift production. Tests samples to determine specific gravity, composition, or acidity, using chemical test equipment such as hydrometer or pH meter. Replaces filtering media or makes minor repairs to equipment, using hand tools. Patrols work area to detect leaks and equipment malfunctions, and monitor operating conditions. Observes gauges, meters, and panel lights to monitor operating conditions, such as temperature or pressure. Adjusts valves or controls to maintain system within specified operating conditions.



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### **51-9012. 00 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts agitators, shakers, conveyors, pumps, or centrifuge machines, turns valves, or moves controls to admit, drain, filter, mix, or transfer materials. Dumps, pours, or loads specified amounts of refined or unrefined materials into equipment or containers for further processing or storage. Sets or adjusts machine controls to regulate conditions, such as material flow, temperature, and pressure, according to specified operating procedures. Monitors material flow and control instruments, such as gauges, indicators, and meters to ensure optimal processing conditions and results. Removes clogs, defects, and impurities from machines, tanks, conveyors, screen, or other processing equipment. Examines samples visually or by hand to verify quality, such as clarity, cleanliness, consistency, dryness, and texture. Measures or weighs materials to be refined, mixed, transferred, stored, or otherwise processed. Communicates or signals processing instructions to other workers. Maintains log of instrument readings, test results, and shift production. Removes full bags or containers from discharge outlets and replaces them with empty ones. Tests samples to determine viscosity, acidity, specific gravity, or degree of concentration, using test equipment, such as viscometer, pH meter, and hydrometer. Collects samples of material or product for laboratory analysis. Cleans tanks, screens, inflow pipes, and other processing equipment, using hoses, brushes, scrapers, or chemical solutions. Lubricates, connects, installs, replaces, or makes minor adjustments or repairs to hoses, pumps, filters, or screens to maintain processing equipment, using hand tools. Inspects machines and equipment for hazards, operating efficiency, mechanical malfunctions, wear, and leaks.

### **51-9021. 00 Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates or tends machines and equipment that crush, grind, polish, or blend materials. Moves controls to start, stop, or adjust machinery and equipment that crush, grind, polish, or blend materials. Adds or mixes chemicals and ingredients for processing, using hand tools or other devices. Dislodges and clears jammed materials, or other items, from machinery and equipment, using hand tools. Loads materials into machinery and equipment, using hand tools. Observes production monitoring equipment to ensure safety and efficient operation. Tends accessory equipment, such as pumps and conveyors, to move materials or ingredients through production process. Reads work orders to ascertain production specifications and information. Weighs or measures materials, ingredients, and products to ensure conformance to requirements. Records operational and production data on specified forms. Transfers materials, supplies, and products between work areas, using moving equipment and hand tools. Tests samples of materials or products to ensure compliance with specifications, using test equipment. Cleans and maintains machinery, equipment, materials, and products, using hand tools. Collects samples of materials or products for laboratory testing. Examines or feels materials, ingredients, or products to ensure conformance to established standards.

### **51-9023. 00 Mixing and Blending Machine Setters, Operators, and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates or tends machines and equipment that crush, grind, polish, or blend materials. Records operational and production data on specified forms. Transfers materials, supplies, and products between work areas, using moving equipment and hand tools. Tests samples of materials or products to ensure compliance with specifications, using test equipment. Cleans and maintains machinery, equipment, materials, and products, using hand tools. Collects samples of materials or products for laboratory testing. Examines or feels materials, ingredients, or products to ensure conformance to established standards. Reads work orders to ascertain production specifications and information. Loads materials into machinery and equipment, using hand tools. Adds or mixes chemicals and ingredients for processing, using hand tools or other devices. Dislodges and clears jammed materials, or other items, from machinery and equipment, using hand tools. Weighs or measures materials, ingredients, and products to ensure conformance to requirements. Tends accessory equipment, such as pumps and conveyors, to move materials or ingredients through production process. Observes production monitoring equipment to ensure safety and efficient operation. Moves controls to start, stop, or adjust machinery and equipment that crush, grind, polish, or blend materials.

### **51-9032. 01 Fiber Product Cutting Machine Setters and Set-Up Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Adjusts machine controls to position and align, and to regulate speed and pressure of components. Activates machine to cut, slice, slit, perforate, or score fiber products, such as paperboard sheets, rubber shoe soles, or plaster wallboard. Monitors operation of cutting or slicing machine to detect malfunctions, removes defective or substandard materials, and readjusts machine components to conform to standards. Positions materials, such as rubber, paper, or leather on feeding mechanism of cutting or slicing machine. Replaces worn or broken parts, and cleans and lubricates cutting or slicing machine to maintain equipment in working order. Maintains production records, such as quantity, type, and dimensions of materials produced. Removes completed materials or products from cutting or slicing machine and stacks or stores for additional processing. Examines, measures, and weighs materials or products to verify conformance to



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specifications, using measuring devices, such as ruler, micrometer, or scale. Reviews work order, blueprints, specifications, or job sample to determine components, settings, and adjustments for cutting and slicing machines. Selects and installs machine components, such as cutting blades, rollers, and templates, according to specifications, using hand tools.

### **51-9032. 02 Stone Sawyers Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts saw and moves blade across surface of material, such as stone, concrete slabs, and asbestos-cement sheets and pipes, to saw. Starts pump to circulate water and abrasive onto blade or cable during cutting. Turns crank or presses button to move car under sawing cable or saw frame. Observes operation to detect uneven sawing and exhausted abrasive supply and tightens pulleys or adds abrasive to maintain cutting speed. Builds bed of timbers on car, and aligns and levels stone on bed, using crowbar, sledgehammer, wedges, blocks, rule, and spirit level. Marks dimensions or traces on stone according to diagram, using chisel and hammer, straightedge, rule, and chalked string. Operates crane or signals crane operator to position or remove stone from car or saw bed. Washes stone, using water hose, and verifies width or thickness of cut stone, using rule. Aligns cable or blades with marks on stone, and presses button or turns lever to lower sawing cable or blades to stone. Changes or replaces saw blades, cables, and grinding wheels, using wrench. Adjusts blade pressure against stone, using ammeter, and lowers blade in stone as cut depth increases.

### **51-9032. 03 Glass Cutting Machine Setters and Set-Up Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates single cut machine to cut glass. Removes and replaces worn cutter heads, using hand tools. Measures glass with tape to verify dimensions and observes glass to detect defects. Starts vacuum-cupped crane, to lift and transfer glass. Directs workers on cutting team. Reviews work order and maintains record of production, using counter. Adjusts timing mechanism, to synchronize breaker bar to snap glass at score. Starts machine to verify setup. Adjusts position, height, and stroke of cutting bridges, manually or by turning controls, to score glass to specific dimensions.

### **51-9032. 04 Cutting and Slicing Machine Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts cutting machine by pressing button, pulling lever, or depressing pedal to cut stock, following markings or specifications. Reads work order, or receives oral instructions, regarding specifications, for stock to be cut. Positions stock along cutting lines, or against stops, on bed of scoring or cutting machine. Feeds stock into cutting machine, conveyor, or under cutting blades, by threading, guiding, pushing, or turning hand wheel. Stacks and sorts cut material according to type and size, for packaging, further processing, or shipping. Moves stock or scrap to and from machine transporting either manually or using cart, hand truck, or lift truck. Records data concerning amount and type of stock cut from duties performed, including weight, length, and width. Cleans and lubricates cutting machine, conveyors, blades, saws, or knives, using steam hose, scrapers, brush, or oil cans. Cuts stock manually, to prepare for machine cutting, using tools such as knife, cleaver, handsaw, or hammer and chisel. Sharpens cutting blades, knives, or saws, using file, bench grinder, or honing stone. Examines and measures stock to ensure conformance to specifications, using ruler, gauge, micrometer or scale, and removes defects. Installs or replaces cutting knives, blades, or wheels, in cutting machine, using hand tools. Marks cutting lines, or identifying information on stock, using marking pencil, ruler, or scribe. Observes cutting machine in operation, to ensure even flow of stock and to detect jamming, improper feeding, or foreign materials. Stops cutting machine when necessary, by pulling lever, pressing button, or depressing pedal, and removes debris. Adjusts feeding guides, blades, settings, or speed, to regulate specified depth, length, or width of material, using hand tools or hands.

### **51-9041. 01 Extruding, Forming, Pressing, and Compacting Machine Setters and Set-Up Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Installs dies or molds in machines to produce products from variety of materials, according to work order and specifications. Observes operation of machine and product to detect and diagnose cause of faulty operation and monitors gauges and recorders. Synchronizes speed of sections of machine when producing products involving several steps or processes. Installs, aligns, and adjusts neck rings, press plungers, and feeder tubes to molds to deliver material and form product. Selects and measures arbors and dies to verify size specified on work ticket. Collects, examines, measures, weighs, and tests product to verify machine setup and conformance of product to specifications. Cleans dies, arbors, compression chambers, and molds, using swabs, sponge, or air hose and swabs molds with solution to prevent sticking. Removes products from discharge belts and molds, mold components, and feeder tubes from machines. Ignites burner to preheat product or applies heat, using torch. Feeds product into machine by hand or conveyor. Pours, scoops, or dumps specified ingredients, metal assemblies, or mixtures into sections of machine prior to starting machine. Threads extruded strip through water tank and holddown bars or attaches strands to wire and draws through tube. Adjusts timer drum to set size of product material and rollers, cutoff knives, and stops to regulate thickness and length.



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Disassembles and repairs machinery and equipment. Routes sample to lab for analysis, according to procedure. Records product information, such as scrap quantity, machine number, and ingredients, to complete work ticket and places tickets with product. Couples air and gas lines to machine to maintain plasticity of material and to regulate solidification of final product. Presses control button to activate machinery and equipment. Operates machines and notifies supervisor or setup personnel of needed adjustments to machines. Turns controls to control machine functions, such as regulate air pressure, create vacuum, and coolant flow.

### **51-9041. 02 Extruding, Forming, Pressing, and Compacting Machine Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Activates machine to shape or form products, such as candy bars, light bulbs, silver spoons, balloons, or insulation panels. Records and maintains production data, such as meter readings, and quantity, type, and dimensions of materials produced. Replaces worn or broken parts, such as nozzles, punches, and filters, and cleans and lubricates machine components to maintain in working order. Moves materials, supplies, components, and finished products between storage and work areas, using work aids, such as racks, hoists, and hand trucks. Examines, measures, and weighs materials or products to verify conformance to standards, using measuring devices, such as templates, micrometers, or scales. Selects and installs machine components, such as dies, molds, and cutters, according to specifications, using hand tools and measuring devices. Measures, mixes, cuts, shapes, softens, and joins materials and ingredients, such as powder, cornmeal, or rubber to prepare for machine processing. Reviews work orders, specifications, or instructions to determine materials, ingredients, procedures, components, settings, and adjustments for extruding, form Removes materials or products from mold, or from extruding, forming, pressing, or compacting machine, and stacks or stores for additional processing. Adjusts machine components to regulate speed, pressure, and temperature of machine, and amount, dimensions, and flow of materials or ingredients. Fills molds or positions ingredients or materials, such as glass rods, candy, or rolls of paper, on machine feeding mechanism. Monitors machine operations and observes indicator lights and gauges, such as thermometers, voltage meters, and timers to detect malfunctions. Clears jams, removes defective or substandard materials or products, and readjusts machine components to conform to specifications.

### **51-9051. 00 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Loads equipment receptacle or conveyor with material to be processed, manually or using hoist. Weighs or measures specified amount of material or substance to be processed, using devices such as scales and calipers. Removes product from equipment, manually or using hoist, and prepares for storage, shipment, or additional processing. Reads and interprets work orders and instructions to determine work assignment, process specifications, and production schedule. Transports materials and products to and from work area, manually or using cart, hand truck, or hoist. Confers with supervisor or other equipment operators to report equipment malfunction or resolve problems resulting from process changes. Records gauge readings, test results, and shift production in logbook. Cleans, lubricates, and adjusts equipment, using items such as scrapers, solvents, air hose, oil, and hand tools. Replaces worn or defective equipment parts, using hand tools. Examines or tests sample of processed substance, or collects sample for laboratory testing, to ensure conformance to specifications. Stops equipment and clears blockages or jams, using fingers, wire, or hand tools. Presses and adjusts controls to activate, set, and regulate equipment operation according to specifications. Monitors equipment operation, gauges, and panel lights to detect deviation from standards.

### **51-9111. 00 Packaging and Filling Machine Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Tends or operates machine that packages product. Starts machine, by engaging controls. Stops or resets machine when malfunction occurs and clears machine jams. Regulates machine flow, speed, or temperature. Operates mechanism to cut filler product or packaging material. Adjusts machine tension and pressure and machine components according to size or processing angle of product. Removes finished packaged items from machine and separates rejected items. Observes machine operations to ensure quality and conformity of filled or packaged products to standards. Attaches identification labels to finished packaged items. Stacks finished packaged items or packs items in cartons or containers. Counts and records finished and rejected packaged items. Cleans, oils, and makes minor repairs to machinery and equipment. Secures finished packaged items by hand tying, sewing, or attaching fastener. Tests and evaluates product and verifies product weight or measurement to ensure quality standards. Stocks packaging material for machine processing. Stocks product for packaging or filling machine operation. Inspects and removes defective product and packaging material.

### **51-9132. 00 Photographic Processing Machine Operators Entry – Mid – Senior level position assuming education and experience prerequisite**





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Loads circuit boards, racks or rolls of film, negatives, or printing paper into processing or printing machines. Removes completed work from equipment and examines circuit boards, plates, film, and prints for conformance to quality standards. Places film in labeled containers or numbers film for identification, using numbering machine or by hand. Reads work orders and examines negatives and film to determine machine settings and processing requirements. Maintains records, such as number and types of processing completed, rate of materials usage, and customer charges. Cleans and maintains photo processing equipment, using cleaning and rinsing solutions and ultrasonic equipment. Discards or cleans and repairs defective film or circuit patterns on photographic plates, using cleaning solutions and hand tools. Measures and mixes chemicals according to formula to prepare solutions for processing. Sets and adjusts machine controls, according to specifications, type of operation, and material requirements. Starts and operates machines to prepare circuit boards and expose, develop, etch, fix, wash, dry, and print film or plates. Monitors equipment operation to detect malfunctions. Fills tanks of processing machines with solutions, such as developer, dyes, stop-baths, fixers, bleaches, and washes.

### **51-9141. 00 Semiconductor Processors Entry – Mid – Senior level position assuming education and experience prerequisite**

Measures and weighs amounts of crystal growing materials, mixes and grinds materials, and loads materials into container, following procedures. Forms seed crystal for crystal growing or locates crystal axis of ingot, using x-ray equipment, drill, and sanding machine. Aligns photo mask pattern on photoresist layer, exposes pattern to ultraviolet light, and develops pattern, using specialized equipment. Attaches ampoule to diffusion pump to remove air from ampoule, and seals ampoule, using blowtorch. Places semiconductor wafers in processing containers or equipment holders, using vacuum wand or tweezers. Monitors operation, and adjusts controls of processing machines and equipment, to produce compositions with specific electronic properties. Manipulates valves, switches, and buttons, or keys commands into control panels to start semiconductor processing cycles. Etches, laps, polishes, or grinds wafers or ingots, using etching, lapping, polishing, or grinding equipment. Operates saw to cut re-melt into sections of specified size or to cut ingots into wafers. Cleans and dries materials and equipment using solvent, etching or sandblasting equipment, and drying equipment to remove contaminants or photoresist. Studies work order, instructions, formulas, and processing charts to determine specifications and sequence of operations. Loads and unloads equipment chambers and transports finished product to storage or to area for further processing. Inspects materials, components, or products for surface defects and measures circuitry, using electronic test equipment, precision measuring instruments, and standard procedures. Counts, sorts, and weighs processed items. Stamps or etches identifying information on finished component. Maintains processing, production, and inspection information and reports.

### **51-9191. 00 Cementing and Gluing Machine Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Adjusts machine to apply specified amount of glue, cement, or adhesive. Reads work orders and communicates with coworkers to determine machine and equipment settings and adjustments, and supply and product specifications. Monitors and fills machine with glue, cement, or adhesive as needed. Transports materials, supplies, and finished products between storage and work areas, using forklift. Maintains production records, such as number, dimensions, and thickness of materials processed. Cleans and maintains gluing and cementing machines, using cleaning solutions, lubricants, brushes, and scrapers. Removes completed materials or products and restocks materials to be joined. Examines and measures completed materials or products to verify conformance to specifications, using measuring devices, such as tape measure, gauge, or calipers. Measures and mixes ingredients according to specifications to prepare glue. Mounts or loads material, such as paper, plastic, wood, or rubber in feeding mechanism of cementing or gluing machine. Positions materials being joined to ensure accurate application of adhesive. Starts machine and turns valves or moves controls to feed, admit, or transfer materials and adhesive. Adjusts machine components according to specifications, such as width, length, and thickness of materials to be joined. Observes gauges, meters, and control panels to regulate temperature, pressure, or speed of feeder or conveyor. Monitors machine operation to detect malfunctions, remove jammed materials, and readjust machine components to conform to specifications.

### **51-9192. 00 Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Observes machine operation, gauges, or thermometer and adjusts controls to maintain operation, according to specifications. Loads and unloads objects to and from machine, conveyor or rack. Draws sample for laboratory analysis or tests solutions for conformance to specifications, such as acidity or specific gravity. Adjusts, cleans, and lubricates mechanical parts of machine, using hand tools and grease gun. Measures, weighs, or mixes specified quantity of cleaning solutions, using measuring tank, calibrated rod or suction tube. Records gauge readings, materials used, processing time, or test results in production log. Examines and inspects machine for malfunctions, and product for conformance to processing specifications. Drains, cleans, and refills machine or tank at designated intervals with



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cleaning solution or water. Sets controls to regulate temperature and length of cycle and starts conveyors, pumps, agitators, and machines. Adds specified amounts of chemicals into equipment at required time to maintain level and concentration of solution.

### **51-9193. 00 Cooling and Freezing Equipment Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts pumps, agitators, and conveyors, and turns valves to admit or transfer product, refrigerant, or mix. Measures or weighs specified amounts of ingredients or material, and adds into tanks, vats, or equipment. Places or positions containers into equipment and removes container after cooling or freezing process. Records temperatures, amount of materials processed, or test results on report form. Loads and positions wrapping paper, sticks, bags, or cartons into dispensing machines, and removes jammed sticks, using pliers or picks. Cleans, maintains, and repairs machines. Scrapes, dislodges, or breaks excess frost or ice from equipment. Flushes lines with solutions or steam to clean and sterilize equipment. Draws sample of product and tests for specific gravity, acidity, or sugar content, using hydrometer, pH meter, or refractometer. Stirs material with spoon or paddle to mix ingredients or allow even cooling and prevent coagulation. Inserts forming fixture, and starts machine that cuts frozen product into measured portions or specified shapes. Assembles or attaches pipes, fittings, or valves, using hand tools. Adjusts machine or freezer speed and air intake to obtain desired consistency and amount of product. Starts equipment to blend contents or mix with air to prevent sticking to vat. Monitors pressure gauges, flow meters, thermometers, or product, and adjusts controls to maintain specified conditions. Positions molds on conveyor, and measures and adjusts level of fill, using depth gauge.

### **51-9195. 07 Molding and Casting Workers Entry – Mid – Senior level position assuming education and experience prerequisite**

Fills mold with mixed material or applies material to mold to specified thickness. Operates and adjusts controls of heating equipment to melt material or to cure, dry or bake filled molds according to specifications. Measures ingredients and mixes molding or casting material or sealing compound, to prescribed consistency according to formula. Removes excess material and levels and smoothes wet mold mixture. Reads work order or examines part to determine part or section of product to be produced. Installs and secures mold or mold parts together. Selects size and type of mold according to instructions. Engraves or stamps identifying symbols, letters or numbers on product. Cleans and lubricates mold and mold parts. Cleans, trims, smoothes, and polishes products or parts. Fastens metal inserts, such as drainage tubes, bolts, or electrical connections to product, using hand tools and power tools. Inspects and tests parts or products for defects and to verify accuracy and adherence to standards. Aligns and assembles parts to produce completed product, using gauges and hand tools. Measures and cuts product to specified dimensions, using measuring and cutting instruments. Brushes or sprays surface of mold with parting agent or inserts paper to ensure smoothness and prevent sticking or seepage. Loads or stacks filled molds in oven, drier, or curing box, or on storage racks or carts. Assembles, inserts and adjusts wires, tubes, cores, fittings, rods, or patterns into mold, using hand tools and depth gauge. Opens mold and removes finished products. Molds parts or products using vibrator, hand press, or casting equipment and taps or tilts mold to ensure uniformity.

### **51-9196. 00 Paper Goods Machine Setters, Operators, and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Adjusts guide assembly and folding mechanism according to specifications, using hand tools. Removes finished cores and stacks or places them on conveyor for transfer to other work areas. Examines completed work to detect defects and verify conformance to work orders. Cuts products to specified dimensions using hand or power cutters. Disassembles machines to repair or replace broken or worn parts using hand or power tools. Starts machine and regulates tension on pressure rolls, synchronizes speed of machine components and temperature of glue or paraffin. Places roll of paper or cardboard on machine feedtrack and threads paper through gluing, coating, and slitting rollers. Fills glue and paraffin reservoirs and loads automatic stapling mechanism. Observes operation of various machines to detect machine malfunctions and makes corrections for product to meet specifications. Installs attachments to machines for gluing, folding, printing, or cutting. Measures, spaces, and sets saw blades, cutters, and perforators, according to product specifications.

### **51-9197. 00 Tire Builders Entry – Mid – Senior level position assuming education and experience prerequisite**

Depresses pedal to rotate drum and winds specified number of plies around drum to form tire body. Starts rollers that bond tread and plies as drum revolves. Activates bead setters that press prefabricated beads onto plies and position rollers that turn ply edges under and over beads. Depresses pedal to collapse drum and lifts tire onto conveyor. Aligns tread with guide, starts drum to wind tread onto plies, and slices ends. Turns ends of plies under and over beads with steel rod. Positions ply stitcher rollers and drum according to width of stock, using hand tools and gauges. Brushes solvent onto ply to ensure adhesion and repeats process as specified, alternating direction of each ply to strengthen tire.



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Winds chafers and breaker onto plies. Rubs cement stick on drum edge to provide adhesive surface for plies. Pulls ply from supply rack and aligns ply with edge of drum. Cuts ply at splice point and presses ends together to form continuous band.

### **51-9198. 01 Production Laborers Entry – Mid level position assuming education and experience prerequisite**

Carries or hand trucks supplies to work stations. Loads and unloads items from machines, conveyors, and conveyance. Lifts raw materials, final products, and items packed for shipment, manually, or using hoist. Attaches slings, ropes, cables, or identification tags to objects, such as pipes, hoses, and bundles. Ties product in bundles for further processing or shipment, following prescribed procedure. Weighs raw materials for distribution. Records information, such as number of product tested, meter readings, and date and time product placed in oven. Examines product to verify conformance to company standards. Mixes ingredients, according to formula. Feeds item into processing machine. Inserts parts into partial assembly, during various stages of assembly to complete product. Counts finished product to determine completion of production order. Washes machines, equipment, vehicles and products, such as prints, rugs, and table linens. Folds parts of product and final product during processing. Separates product according to weight, grade, size, and composition of material used to produced product. Cuts or breaks flashing from materials or products. Places product in equipment or on work surface for further processing, inspecting, or wrapping. Positions spout or chute of storage bin to fill containers, during processing. Threads ends of items, such as thread, cloth, and lace through needles, rollers, and around take-up tube. Breaks up defective products for reprocessing.

### **51-9198. 02 Production Helpers Entry – Mid level position assuming education and experience prerequisite**

Cleans and lubricates equipment. Dumps materials into machine hopper prior to mixing. Loads and unloads processing equipment or conveyance used to receive raw materials or to ship finished products. Marks or tags identification on parts. Places or positions equipment or partially assembled product for further processing, manually, or using hoist. Removes product, machine attachments, and waste material from machine. Reads gauges and charts and records data. Signals coworkers to facilitate moving product, during processing. Measures amount of ingredients, length of extruded article, or work to ensure conformance to specifications. Replaces damaged or worn equipment parts. Tends equipment to facilitate process. Mixes ingredients, according to procedure. Turns valves to regulate flow of liquids or air, to reverse machine, to start pump, and to regulate equipment. Starts machines or equipment to begin process. Observes operation and notifies equipment operator of malfunctions.

### **53-3021. 00 Bus Drivers, Transit and Intercity Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives vehicle over specified route or to specified destination according to time schedule to transport passengers, complying with traffic regulations. Parks vehicle at loading area for passengers to board. Regulates heating, lighting, and ventilating systems for passenger comfort. Records cash receipts and ticket fares. Reports delays or accidents. Inspects vehicle, and checks gas, oil, and water before departure. Makes minor repairs to vehicle and changes tires. Advises passengers to be seated and orderly while on vehicle. Loads and unloads baggage in baggage compartment. Assists passengers with baggage and collects tickets or cash fares.

### **53-3022. 00 Bus Drivers, School Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives bus to transport pupils over specified routes. Reports delays or accidents. Inspects bus and checks gas, oil, and water levels. Makes minor repairs to bus. Regulates heating, lighting, and ventilating systems for passenger comfort. Complies with local traffic regulations. Maintains order among pupils during trip.

### **53-3032. 01 Truck Drivers, Heavy Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives truck with capacity of more than 3 tons to transport and deliver cargo, materials, or damaged vehicle. Maintains radio or telephone contact with base or supervisor to receive instructions or be dispatched to new location. Maintains truck log according to state and federal regulations. Keeps record of materials and products transported. Position blocks and ties rope around items to secure cargo for transport. Cleans, inspects, and services vehicle. Operates equipment on vehicle to load, unload, or disperse cargo or materials. Obtains customer signature or collects payment for goods delivered and delivery charges. Assists in loading and unloading truck manually.

### **53-3032. 02 Tractor-Trailer Truck Drivers Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives tractor-trailer combination, applying knowledge of commercial driving regulations, to transport and deliver products,



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livestock, or materials, usually over long distance. Maneuvers truck into loading or unloading position, following signals from loading crew as needed. Drives truck to weigh station before and after loading, and along route to document weight and conform to state regulations. Maintains driver log according to I. C. C. regulations. Inspects truck before and after trips and submits report indicating truck condition. Reads bill of lading to determine assignment. Fastens chain or binders to secure load on trailer during transit. Loads or unloads, or assists in loading and unloading truck. Works as member of two-person team driving tractor with sleeper bunk behind cab. Services truck with oil, fuel, and radiator fluid to maintain tractor-trailer. Obtains customer's signature or collects payment for services. Inventories and inspects goods to be moved. Wraps goods using pads, packing paper, and containers, and secures load to trailer wall using straps. Gives directions to helper in packing and moving goods to trailer.

### **53-3033. 00 Truck Drivers, Light or Delivery Services Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives truck, van or automobile with capacity under 3 tons to transport materials, products, or people. Loads and unloads truck, van, or automobile. Communicates with base or other vehicles using telephone or radio. Maintains records such as vehicle log, record of cargo, or billing statements in accordance with regulations. Inspects and maintains vehicle equipment and supplies. Presents billing invoice and collects receipt or payment. Performs emergency roadside repairs.

### **53-3041. 00 Taxi Drivers and Chauffeurs Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives taxicab, limousine, company car, hearse, or privately owned vehicle to transport passengers. Communicates with taxicab dispatcher by radio or telephone to receive requests for passenger service. Collects and documents fees, payments, and deposits determined by rental contracts or taximeter recordings. Assists passengers to enter and exit vehicle, assists with luggage, and holds umbrellas in wet weather. Maintains vehicle by performing such duties as regulating tire pressure and adding gasoline, oil, and water. Delivers automobiles to customers from rental agency, car dealership, or repair shop. Tests performance of vehicle accessories, such as lights, horn, and windshield wipers. Performs errands for customers, such as carrying mail to and from post office. Vacuums, sweeps, and cleans interior, and washes and polishes exterior of automobile. Makes minor repairs on vehicle, such as fixing punctures, cleaning spark plugs, or adjusting carburetor.

### **53-4013. 00 Rail Yard Engineers, Dinkey Operators, and Hostlers Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives switching locomotive within railroad yard or other establishment to switch railroad cars. Inspects engine at start and end of shift, and refuels and lubricates engine as needed. Reads daily car schedule to determine number of cars needed for next day's run. Inspects track for defects, and assists in installation or repair of rails and ties. Records number of cars available or number of cars sent to repair station and type of service needed. Observes oil, air, and steam pressure gauges, and water level, to ensure operating efficiency. Operates switching diesel engine to switch railroad cars, using remote control. Operates and controls dinkey engine to transport and shunt cars at industrial or mine site. Operates flatcar equipped with derrick, or railcar to transport personnel or equipment. Receives switching orders from yard conductor, and talks with conductor and other workers via radio- telephone, to exchange switching information. Drives locomotives to and from various stations in roundhouse, to have locomotives cleaned, serviced, repaired, or supplied.

### **53-4021. 02 Railroad Yard Workers Entry – Mid – Senior level position assuming education and experience prerequisite**

Throws track switches to route cars to different sections of yard. Rides atop cars that have been shunted and turns hand wheel to control speed or stop car at specified position. Connects air hose to car, using wrench. Attaches cable to cars being hoisted by cable or chain in mines, quarries or industrial plants. Opens and closes ventilation doors. Signals engineer to start and stop engine. Receives oral or written instructions indicating which cars are to be switched and track assignments. Raises lever to couple and uncouple cars for makeup and breakup of trains. Watches for and relays traffic signals to start and stop cars during shunting, using arm or lantern. Opens and closes chute gates to load and unload cars.

### **53-5011. 01 Able Seamen Entry – Mid level position assuming education and experience prerequisite**

Measures depth of water in shallow or unfamiliar waters, using lead line, and telephones or shouts information to bridge. Steers ship and maintains visual communication with other ships. Relays specified signals to ships in vicinity, using visual signaling devices, such as blinker light and semaphore. Stands by wheel when ship is on automatic pilot and verifies accuracy of course by comparing with magnetic compass. Gives directions to crew engaged in cleaning



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wheelhouse and quarterdeck. Maintains ship's log while in port, and stands gangway watch to prevent unauthorized persons from boarding ship. Stows or removes cargo from ship's hold. Steers ship under direction of ship's commander or navigating officer, or directs helmsman to steer, following designated course. Breaks out, rigs, overhauls, and stows cargo-handling gear, stationary rigging, and running gear. Paints and chips rust on deck or superstructure of ship. Overhauls lifeboats and lifeboat gear, and lowers or raises lifeboats with winch or falls. Stands watch from bow of ship or wing of bridge to look for obstruction in path of ship.

### **53-5011. 02 Ordinary Seamen and Marine Oilers Entry – Mid level position assuming education and experience prerequisite**

Cleans and polishes wood trim, brass, and other metal parts. Paints or varnishes decks, superstructures, lifeboats, or sides of ship. Lubricates machinery, equipment, and engine parts, such as gears, shafts, and bearings. Splices and repairs cables and ropes, using marlinespike, wire cutters, twine, and hand tools. Stands watch from bow of ship or wing of bridge to look for obstructions in path of ship. Loads or unloads materials from vessel. Lowers and mans lifeboat in case of emergency. Records data in ship's log such as weather conditions and distance traveled. Assists engineer in overhauling and adjusting machinery. Turns wheel while observing compass to maintain ship on course. Reads pressure and temperature gauges or displays, and records data in engineering log. Examines machinery for specified pressure and flow of lubricants. Handles lines to moor vessel to wharf, tie up vessel to another vessel, or rig towing lines. Sweeps and washes deck, using broom, mops, brushes, and hose. Chips and cleans rust spots on deck, superstructure, and sides of ship, using wire brush and hand or air chipping machine.

### **53-5022. 00 Motorboat Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates engine throttle and steering mechanism to guide boat on desired course. Secures boat to dock with mooring lines and casts off lines to depart. Gives directions for loading and seating in boat. Cleans and repairs boat hull and superstructure. Performs routine maintenance on boat engine and equipment. Maintains desired course, using compass or electronic navigational aides.

### **53-6021. 00 Parking Lot Attendants Entry – Mid level position assuming education and experience prerequisite**

Parks automobiles in parking lot, storage garage, or new car lot. Places numbered tag on windshield of automobile to be parked, and hands customer similar tag to be used in locating parked automobile. Patrols area to prevent thefts of parked automobiles or items in automobiles. Takes numbered tag from customer, locates car, and delivers it to customer, or directs customer to parked car. Collects parking fee from customer, based on charges for time automobile is parked. Signals or directs vehicle drivers with hands or flashlight to parking area. Lifts, positions, and removes barricades to open or close parking areas. Services vehicles with gas, oil, and water. Inspects vehicles to detect damage. Services cars in storage to protect tires, battery, and finish against deterioration. Keeps new car lot in order and maximizes use of space.

### **53-6031. 00 Service Station Attendants Entry – Mid level position assuming education and experience prerequisite**

Fills or allows customer to fill fuel tank of vehicle with gasoline or diesel fuel to specified level. Installs accessories, such as air or oil filter, battery, windshield wiper blades, fan belt, or lights. Collects cash from customer and makes change, or charges purchases to customer's credit card. Greases and lubricates vehicles or specified units, such as springs, universal joints, and steering knuckles, using grease gun or spray lubricant. Changes, tests, and repairs or replaces tires. Checks air pressure in tires, levels of fuel, motor oil, and other fluids, and adds air, oil, water, and required fluids. Adjusts brakes, replaces spark plugs, and makes other minor repairs. Cleans windshield or washes and waxes vehicle. Sells accessories and services, such as batteries, tires, lubrication services, and safety inspections. Assists in arranging merchandise displays and taking inventories. Prepares daily report of fuel, oil, and accessories sold in service station. Maintains customer records and follows up periodically with telephone, mail, or personal reminders of service due. Cleans parking area, offices, and equipment, and removes trash.

### **53-7011. 00 Conveyor Operators and Tenders Entry – Mid – Senior level position assuming education and experience prerequisite**

Manipulates controls, levers, and valves to start pumps, auxiliary equipment, or conveyors and adjust equipment positions, speed, timing, and material flow. Distributes materials, supplies, and equipment to work stations, using lifts and trucks. Records production data, such as weight, type, quantity, and storage locations of materials, and documents equipment downtime. Affixes identifying information to materials or products, using hand tools. Collects samples of materials or products for laboratory analysis and ensure conformance to specifications. Weighs or measures materials and products, using scales or other measuring instruments, to verify specified tonnage and prevent overloads. Cleans,



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sterilizes, and maintains equipment, machinery, and work stations, using hand tools, shovels, brooms, chemicals, hoses, and lubricants. Repairs or replaces equipment components or parts such as blades, rolls, and pumps. Reads production and delivery schedules, and confers with supervisor to determine processing procedures. Loads, unloads, or adjusts materials or products on conveyors by hand or using lifts and hoists. Inspects equipment and machinery to prevent loss of materials or products during transit. Moves, assembles, and connects hoses or nozzles to material hoppers, storage tanks, conveyor sections or chutes, and pumps. Signals workers in other departments to move materials, products, or machinery, or notifies workstations of shipments en route and estimated delivery times. Stops equipment or machinery and clears jams, using poles, bars, and hand tools, or removes damaged materials from conveyors. Observes conveyor operations and monitors lights, dials, and gauges to maintain specified operating levels and detect equipment malfunctions.

### **53-7031. 00 Dredge Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts and stops engines to operate equipment. Lowers anchor pole to verify depth of excavation, using winch, or scans depth gauge to determine depth of excavation. Directs workers placing shore anchors and cables, laying additional pipes from dredge to shore, and pumping water from pontoons. Starts power winch that draws in or lets out cable to change position of dredge, or pulls in and lets out cable manually. Moves levers to position dredge for excavation, engage hydraulic pump, raise and lower suction boom, and control rotation of cutter head.

### **53-7032. 01 Excavating and Loading Machine Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates power machinery, such as powered-shovel, stripping-shovel, scraper loader (mucking machine), or back-hoe (trench excavating machine) to excavate and load material. Measures and verifies levels of rock or gravel, base, and other excavated material. Lubricates and repairs machinery and replaces parts, such as gears, bearings, and bucket teeth. Directs ground workers engaged in activities, such as moving stakes or markers. Receives written or oral instructions to move or excavate material. Observes hand signals, grade stakes, and other markings when operating machines.

### **53-7033. 00 Loading Machine Operators, Underground Mining Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates levers to move conveyor boom or shovel to move mine contents into car or onto conveyor. Drives machine into pile of material blasted from working face. Pries off loose material from roof and moves it into path of machine with crowbar. Starts conveyor boom and gathering-arm motors. Moves trailing electrical cable clear of obstructions, using rubber safety gloves. Advances machine to gather material and convey it into car at rear. Stops gathering arms when car is full.

### **53-7041. 00 Hoist and Winch Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Operates equipment, such as hoist, winch, or hydraulic boom, to lift and pull loads and materials. Repairs, maintains, and adjusts equipment, using hand tools. Moves or repositions hoists, winches, loads, and materials, manually or using equipment and machines such as trucks, cars, and hand trucks. Tends auxiliary equipment, such as jacks, slings, cables, or stop blocks, to facilitate moving items or materials for further processing. Attaches, fastens, and disconnects cables or lines to loads and materials, using hand tools. Climbs ladder to facilitate positioning and setup of vehicle-mounted derrick. Selects loads or materials according to weight and size specifications. Observes equipment gauges and indicators and hand signals to verify depth of materials, instruments, or position of load. Starts engine of hoist or winch to move loads or materials, using controls such as levers, pedals, and buttons.

### **53-7051. 00 Industrial Truck and Tractor Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Moves controls to drive gasoline- or electric-powered trucks, cars, or tractors and transport materials between loading, processing, and storage areas. Hooks tow trucks to trailer hitches and fastens attachments, such as graders, plows, rollers, and winch cables, to tractor, using hitchpins. Turns valves and opens chutes to dump, spray, or release materials from dump cars or storage bins into hoppers. Manually load or unload materials onto or off pallets, skids, platforms, cars, or lifting devices. Weighs materials or products and records weight and other production data on tags or labels. Signals workers to discharge, dump, or level materials. Operates or tends automatic stacking, loading, packaging, or cutting machines. Performs routine maintenance on vehicles and auxiliary equipment, such as cleaning, lubricating, recharging batteries, fueling, or replacing liquefied-gas tank. Moves levers and controls to operate lifting devices, such as forklifts, lift beams and swivel-hooks, hoists, and elevating platforms, to load, unload, transport, and stack material. Positions



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lifting device under, over, or around loaded pallets, skids, and boxes, and secures material or products for transport to designated areas.

### **53-7061. 00 Cleaners of Vehicles and Equipment Entry level position assuming education and experience prerequisite**

Scrubs, scrapes, or sprays machine parts, equipment, or vehicles, using scrapers, brushes, cleaners, disinfectants, insecticides, acid, and abrasives. Pre-soaks or rinses machine parts, equipment, or vehicles by immersing objects in cleaning solutions or water, manually or using hoists. Presses buttons to activate cleaning equipment or machines. Turns valves or handles on equipment to regulate pressure and flow of water, air, steam, or abrasives from sprayer nozzles. Sweeps, shovels, or vacuums loose debris and salvageable scrap into containers and removes from work area. Monitors operation of cleaning machines and stops machine or notifies supervisor when malfunctions occur. Mixes cleaning solutions and abrasive compositions and other compounds according to formula. Records production and operational data on specified forms. Collects and tests samples of cleaning solutions and vapors. Transports materials, equipment, or supplies to and from work area, using carts or hoists. Lubricates machinery, vehicles, and equipment, and performs minor repairs and adjustments, using hand tools. Applies paints, dyes, polishes, reconditioners, and masking materials to vehicles to preserve, protect, or restore color and condition. Examines and inspects parts, equipment, and vehicles for cleanliness, damage, and compliance with standards or regulations. Places objects on drying racks or dyes surfaces, using cloth, squeegees, or air compressors. Disassembles and reassembles machines or equipment, or removes and reattaches vehicle parts and trim, using hand tools. Maintains inventories of supplies. Connects hoses and lines to pumps and other equipment. Turns valves or disconnects hoses to eliminate water, cleaning solutions, or vapors from machinery or tanks.

### **53-7062. 01 Stevedores, Except Equipment Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Carries or moves cargo by hand truck to wharf and stacks cargo on pallets to facilitate transfer to and from ship. Guides load being lifted to prevent swinging. Stacks cargo in transit shed or in hold of ship as directed. Attaches and moves slings used to lift cargo. Shores cargo in ship's hold to prevent shifting during voyage.

### **53-7062. 02 Grips and Set-Up Workers, Motion Picture Sets, Studios, and Stages Entry – Mid – Senior level position assuming education and experience prerequisite**

Arranges equipment preparatory to sessions and performances following work order specifications and handles props during performances. Produces special lighting and sound effects during performances, using various machines and devices. Sews and repairs items using materials and hand tools such as canvas and sewing machines. Orders equipment and maintains equipment storage areas. Connects electrical equipment to power source and tests equipment before performance. Reads work orders and follows oral instructions to determine specified material and equipment to be moved and its relocation. Erects canvas covers to protect equipment from weather. Adjusts controls to guide, position and move equipment, such as cranes, booms, and cameras. Adjusts controls to raise and lower scenery and stage curtain during performance, following cues. Rigs and dismantles stage or set equipment such as, frames, scaffolding, platforms, or backdrops, using carpenter's hand tools.

### **53-7062. 03 Freight, Stock, and Material Movers, Hand Entry – Mid – Senior level position assuming education and experience prerequisite**

Loads and unloads materials to and from designated storage areas, such as racks and shelves, or vehicles, such as trucks. Directs spouts and positions receptacles, such as bins, carts, and containers, to receive loads. Stacks or piles materials, such as lumber, boards, or pallets. Secures lifting attachments to materials and conveys load to destination, using crane or hoist. Transports receptacles to and from designated areas, by hand or using dollies, hand trucks, and wheelbarrows. Shovels materials, such as gravel, ice or spilled concrete, into containers, bins or onto conveyors. Reads work orders or receives and listens to oral instructions to determine work assignment. Bundles and bands material, such as fodder and tobacco leaves, using banding machines. Assembles product containers and crates, using hand tools and pre-cut lumber. Adjusts or replaces equipment parts, such as rollers, belts, plugs and caps, using hand tools. Records number of units handled and moved, using daily production sheet or work tickets. Attaches identifying tags or marks information on containers. Cleans work area, using brooms, rags, and cleaning compounds. Installs protective devices, such as bracing, padding or strapping, to prevent shifting or damage to items being transported. Sorts and stores items according to specifications.

### **53-7063. 00 Machine Feeders and Offbearers Entry – Mid – Senior level position assuming education and experience prerequisite**



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Feeds materials into machines and equipment to process and manufacture products. Shovels or scoops materials into containers, machines, or equipment for processing, storage or transport. Transfers materials and products between storage areas and machinery and equipment. Fastens, packages, or stacks materials and products, using hand tools and fastening equipment. Weighs or measures materials or products to ensure conformance to specifications. Records production and operational information and data on specified forms. Identifies and marks materials, products, and samples, following instructions. Cleans and maintains machinery, equipment, and work areas to ensure proper functioning and safe working conditions. Moves controls to start, stop, or adjust machinery and equipment. Modifies materials and products during manufacturing process to meet requirements. Inspects materials and products for defects and to ensure conformance to specifications. Sorts and selects materials and products and rejects defective pieces, following specified instructions and standards. Adds chemicals, solutions, or ingredients to machines or equipment to ensure manufacturing process meets specifications. Off bears materials and products from machines and equipment, using hand tools. Loads materials and products into machines and equipment, using hand tools and moving devices. Removes materials and products from machines and equipment, using hand tools and moving devices.

### **53-7071. 01 Gas Pumping Station Operators Entry level position assuming education and experience prerequisite**

Opens valve to allow gas to flow into and out of compressors. Cleans, lubricates, and adjusts compressors, using hand tools. Observes pressure gauges to determine consumption rate variations and turns knobs or switches to regulate pressures. Reads gas meters and records amount of gas received and dispensed from holders.

### **53-7071. 02 Gas Compressor Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Moves controls and turns valves to start compressor engines, pumps, and auxiliary equipment. Operates equipment to control transmission of natural gas through pipelines. Observes operation of equipment to detect malfunctions. Conducts chemical tests to evaluate quality of gas. Performs minor repairs on equipment, using hand tools. Records instrument readings and operational changes in operating log. Operates or tends equipment to purify gases. Monitors meters, gauges, and recording instrument charts to ensure specified temperature, pressure, and flow of gas through system.

### **53-7072. 00 Pump Operators, Except Wellhead Pumpers Entry – Mid – Senior level position assuming education and experience prerequisite**

Turns valves and starts pump to commence or regulate flow of substances, such as gases, liquids, slurries, or powdered materials. Connects hoses and pipes to pumps and vessels, using hand tools. Adds chemicals and solutions to tank to ensure specifications are met. Communicates with workers to start flow of materials or substance. Collects and delivers sample solutions for laboratory analysis. Transfers materials to and from vessels, using moving equipment. Tests materials and solutions, using testing equipment. Records information such as type and quantity of material, and operating data. Inspects and reports vessel and pump abnormalities such as leaks, pressure, and temperature fluctuations. Cleans and maintains pumps and vessels, using hand tools and equipment. Tends auxiliary equipment such as water treatment and refrigeration units and heat exchanges. Observes gauges and flow meter to ascertain specifications are met, such as tank level, chemical amounts, and pressure. Tends vessels that store substances such as gases, liquids, slurries, or powdered materials.

### **53-7073. 00 Wellhead Pumpers Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts compressor engines and diverts oil from storage tanks into compressor units and auxiliary equipment to recover natural gas from oil. Opens valves to return compressed gas to bottoms of specified wells to re-pressurize them and force oil to surface. Reads tank gauges and pump meters, and keeps production records. Starts pumps and opens valves to pump oil from wells into storage tanks. Operates engines and pumps from central power plant to shut off wells and to switch flow of oil into storage tanks.

### **53-7081. 00 Refuse and Recyclable Material Collectors Entry – Mid – Senior level position assuming education and experience prerequisite**

Drives truck. Starts hoisting device that raises refuse bin attached to rear of truck and dumps contents into opening in enclosed truck body.

### **53-7111. 00 Shuttle Car Operators Entry – Mid – Senior level position assuming education and experience prerequisite**

Positions shuttle car under discharge conveyor of loading machine and observes that materials are loaded according to





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specifications. Maneuvers shuttle car to keep its nose under discharge conveyor. Moves mine cars into position to be loaded from shuttle car. Drives loaded shuttle car to ramp and moves controls to discharge load into mine car or onto conveyor. Controls conveyor, which runs entire length of shuttle car to apportion load as loading progresses.

### **53-7121. 00 Tank Car, Truck, and Ship Loaders Entry – Mid – Senior level position assuming education and experience prerequisite**

Starts pumps and adjusts valves to regulate flow of product to vessel, utilizing knowledge of loading procedures. Monitors product movement to and from storage tanks and coordinates with other workers to ensure constant product flow. Unloads cars by connecting hose to outlet plugs and pumping compressed air into car forcing liquid into storage tank. Verifies tank car, barge, or truckload number to ensure car placement accuracy based on written or verbal instructions. Weighs and inspects vessels to prevent contamination and to ensure cleanliness and compliance to loading procedures. Tests vessels for leaks, damage, and defects, and repairs or replaces defective parts. Reads meter to verify content, temperature, and volume of liquid load. Copies and tacks load specifications onto tank, and seals outlet valves on tank car, barge, or truck. Records operating data, such as products and quantities pumped, gauge readings, and operating time, manually or using computer. Retrieves liquid sample and performs tests on contents or delivers sample to laboratory for testing. Operates blenders and heaters to mix, blend and heat products.