

## **11-0000 – MANAGEMENT OCCUPATIONS**

### **11-1011 Chief Executives**

Determine and formulate policies and provide overall direction of companies or private and public sector organizations within guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.

*Illustrative examples: Governor*

### **11-1021 General and Operations Managers**

Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Excludes First-Line Supervisors.

*Illustrative examples: General Superintendent, Radio Station Manager, Television Station Manager*

### **11-1031 Legislators**

Develop, introduce or enact laws and statutes at the local, tribal, State, or Federal level. Includes only workers in elected positions.

*Illustrative examples: City Council Member, Senator, Tribal Council Member*

### **11-2011 Advertising and Promotions Managers**

Plan, direct, or coordinate advertising policies and programs or produce collateral materials, such as posters, contests, coupons, or give-aways, to create extra interest in the purchase of a product or service for a department, an entire organization, or on an account basis.

*Illustrative examples: Advertising Director, Advertising Executive, Promotions Director*

### **11-2021 Marketing Managers**

Plan, direct, or coordinate marketing policies and programs, such as determining the demand for products and services offered by a firm and its competitors, and identify potential customers. Develop pricing strategies with the goal of maximizing the firm's profits or share of the market while ensuring the firm's customers are satisfied. Oversee product development or monitor trends that indicate the need for new products and services.

*Illustrative examples: Internet Marketing Manager, Marketing Administrator, Marketing Director*

### **11-2022 Sales Managers**

Plan, direct, or coordinate the actual distribution or movement of a product or service to the customer. Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze sales statistics gathered by staff to determine sales potential and inventory requirements and monitor the preferences of customers.

*Illustrative examples: District Sales Manager, Export Manager, Regional Sales Manager, Sales Director*

### **11-2031 Public Relations and Fundraising Managers**

Plan, direct, or coordinate activities designed to create or maintain a favorable public image or raise issue awareness for their organization or client; or if engaged in fundraising, plan, direct, or coordinate activities to solicit and maintain funds for special projects or nonprofit organizations.

*Illustrative examples: Fundraising Director, Public Affairs Director, Publicity Director*

### **11-3011 Administrative Services Managers**

Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations, and other office support services. Medical records administrators are included in "Medical and Health Services Managers" (11-9111). Excludes "Purchasing Managers" (11-3061).

*Illustrative examples: Facilities Manager, Records and Information Manager, Records Management Director*

### **11-3021 Computer and Information Systems Managers**

Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming. Excludes "Computer Occupations" (15-1111 through 15-1199). *Illustrative examples: Chief Technology Officer, Information Technology Systems Director, Management Information Systems Director*

### **11-3031 Financial Managers**

Plan, direct, or coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.

*Illustrative examples: Comptroller, Financial Director*

### **11-3051 Industrial Production Managers**

Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.

*Illustrative examples: Manufacturing Director, Plant Manager, Production Control Manager*

### **11-3061 Purchasing Managers**

Plan, direct, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, and services. Includes wholesale or retail trade merchandising managers and procurement managers.

*Illustrative examples: Contracting Manager, Procurement Manager, Purchasing Director*

### **11-3071 Transportation, Storage, and Distribution Managers**

Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations. Includes logistics managers.

*Illustrative examples: Distribution Center Manager, Traffic Safety Administrator, Warehouse Manager*

### **11-3111 Compensation and Benefits Managers**

Plan, direct, or coordinate compensation and benefits activities of an organization. Job analysis and position description managers are included in "Human Resource Managers" (11-3121).

*Illustrative examples: Compensation Director, Employee Benefits Director, Wage and Salary Administrator*

### **11-3121 Human Resources Managers**

Plan, direct, or coordinate human resources activities and staff of an organization. Excludes managers who primarily focus on compensation and benefits (11-3111) and training and development (11-3131).

*Illustrative examples: Job Analysis Manager, Labor Relations Director, Personnel Manager, Position Description Manager*

**11-3131 Training and Development Managers**

Plan, direct, or coordinate the training and development activities and staff of an organization. *Illustrative examples: E-Learning Manager, Employee Development Director, Labor Training Manager*

**11-9013 Farmers, Ranchers, and Other Agricultural Managers**

Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, and supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, and financial and marketing activities. Excludes "First-Line Supervisors of Farming, Fishing, and Forestry Workers" (45-1011).

*Illustrative examples: Animal Husbandry Manager, Dairy Farm Manager, Fish Hatchery Manager, Orchard Manager*

**11-9021 Construction Managers**

Plan, direct, or coordinate, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Participate in the conceptual development of a construction project and oversee its organization, scheduling, budgeting, and implementation. Includes managers in specialized construction fields, such as carpentry or plumbing.

*Illustrative examples: Construction Coordinator, Construction Superintendent, General Contractor*

**11-9031 Education Administrators, Preschool and Childcare Center/Program**

Plan, direct, or coordinate the academic and nonacademic activities of preschool and childcare centers or programs. Excludes "Preschool Teachers" (25-2011).

*Illustrative examples: Childcare Center Administrator, Head Start Director, Preschool Director*

**11-9032 Education Administrators, Elementary and Secondary School**

Plan, direct, or coordinate the academic, administrative, or auxiliary activities of public or private elementary or secondary level schools.

*Illustrative examples: Elementary School Principal, High School Principal, Middle School Principal*

**11-9033 Education Administrators, Postsecondary**

Plan, direct, or coordinate research, instructional, student administration and services, and other educational activities at postsecondary institutions, including universities, colleges, and junior and community colleges.

*Illustrative examples: Provost, University Administrator*

**11-9039 Education Administrators, All Other**

All education administrators not listed separately.

**11-9041 Architectural and Engineering Managers**

Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields. Excludes "Natural Sciences Managers" (11-9121).

*Illustrative examples: Engineering Design Manager, Global Engineering Manager, Mechanical Engineering Director*

### **11-9051 Food Service Managers**

Plan, direct, or coordinate activities of an organization or department that serves food and beverages. Excludes "Chefs and Head Cooks" (35-1011).

*Illustrative examples: Banquet Director, Food Service Director, Tavern Operator*

### **11-9061 Funeral Service Managers**

Plan, direct, or coordinate the services or resources of funeral homes. Includes activities such as determining prices for services or merchandise and managing the facilities of funeral homes. Excludes "Morticians, Undertakers, and Funeral Directors" (39-4031).

*Illustrative examples: Funeral Home Director, Funeral Home Manager*

### **11-9071 Gaming Managers**

Plan, direct, or coordinate gaming operations in a casino. May formulate house rules.

*Illustrative examples: Casino Manager, Slot Operations Manager, Table Games Manager*

### **11-9081 Lodging Managers**

Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations. Excludes "Food Service Managers" (11-9051) in lodging establishments.

*Illustrative examples: Bed and Breakfast Innkeeper, Hotel Manager, Innkeeper*

### **11-9111 Medical and Health Services Managers**

Plan, direct, or coordinate medical and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations.

*Illustrative examples: Clinic Director, Hospital Administrator, Medical Records Administrator, Mental Health Program Manager*

### **11-9121 Natural Sciences Managers**

Plan, direct, or coordinate activities in such fields as life sciences, physical sciences, mathematics, statistics, and research and development in these fields. Excludes "Architectural and Engineering Managers" (11-9041) and "Computer and Information Systems Managers" (11-3021).

*Illustrative examples: Agricultural Research Director, Geophysical Manager, Ocean Program Administrator*

### **11-9131 Postmasters and Mail Superintendents**

Plan, direct, or coordinate operational, administrative, management, and supportive services of a U.S. post office; or coordinate activities of workers engaged in postal and related work in assigned post office.

*Illustrative examples: Postal Supervisor, Postmaster*

### **11-9141 Property, Real Estate, and Community Association Managers**

Plan, direct, or coordinate the selling, buying, leasing, or governance activities of commercial, industrial, or residential real estate properties. Includes managers of homeowner and condominium associations, rented or leased housing units, buildings, or land (including rights-of-way).

*Illustrative examples: Apartment Manager, Building Rental Manager, Leasing Property Manager*

**11-9151 Social and Community Service Managers**

Plan, direct, or coordinate the activities of a social service program or community outreach organization. Oversee the program or organization's budget and policies regarding participant involvement, program requirements, and benefits. Work may involve directing social workers, counselors, or probation officers.

*Illustrative examples: Child Welfare Director, Family Service Center Director, Youth Program Director*

**11-9161 Emergency Management Directors**

Plan and direct disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures for natural (e.g., hurricanes, floods, earthquakes), wartime, or technological (e.g., nuclear power plant emergencies or hazardous materials spills) disasters or hostage situations.

*Illustrative examples: Disaster Response Director, Emergency Preparedness Coordinator, Public Safety Director*

**11-9199 Managers, All Other**

All managers not listed separately.

*Illustrative examples: Clerk of Court, Social Science Manager, Utilities Manager*

**Blank Page**

## **13-0000 – BUSINESS & FINANCIAL OPERATIONS OCCUPATIONS**

### **13-1011 Agents and Business Managers of Artists, Performers, and Athletes**

Represent and promote artists, performers, and athletes in dealings with current or prospective employers. May handle contract negotiation and other business matters for clients.

*Illustrative examples: Band Manager, Literary Agent, Theatrical Agent*

### **13-1021 Buyers and Purchasing Agents, Farm Products**

Purchase farm products either for further processing or resale. Includes tree farm contractors, grain brokers and market operators, grain buyers, and tobacco buyers.

*Illustrative examples: Cotton Broker, Fruit Buyer, Livestock Buyer*

### **13-1022 Wholesale and Retail Buyers, Except Farm Products**

Buy merchandise or commodities, other than farm products, for resale to consumers at the wholesale or retail level, including both durable and nondurable goods. Analyze past buying trends, sales records, price, and quality of merchandise to determine value and yield. Select, order, and authorize payment for merchandise according to contractual agreements. May conduct meetings with sales personnel and introduce new products. Includes assistant wholesale and retail buyers of nonfarm products.

*Illustrative examples: Gold Buyer, Merchandise Buyer*

### **13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products**

Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semi-finished materials for manufacturing. Excludes "Buyers and Purchasing Agents, Farm Products" (13-1021) and "Wholesale and Retail Buyers, Except Farm Products" (13-1022).

*Illustrative examples: Equipment, Supplies, and Tools Purchasing Agent; Radio Time Buyer*

### **13-1031 Claims Adjusters, Examiners, and Investigators**

Review settled claims to determine that payments and settlements are made in accordance with company practices and procedures. Confer with legal counsel on claims requiring litigation. May also settle insurance claims. Excludes "Fire Inspectors and Investigators" (33-2021).

*Illustrative examples: Fire Claims Adjuster, Health Insurance Adjuster, Property and Casualty Insurance Claims Examiner*

### **13-1032 Insurance Appraisers, Auto Damage**

Appraise automobile or other vehicle damage to determine repair costs for insurance claim settlement. Prepare insurance forms to indicate repair cost or cost estimates and recommendations. May seek agreement with automotive repair shop on repair costs.

*Illustrative examples: Automobile Damage Appraiser, Vehicle Damage Appraiser*

### **13-1041 Compliance Officers**

Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and perform other compliance and enforcement inspection and analysis activities not classified elsewhere. Excludes "Financial Examiners" (13-2061), "Tax Examiners and Collectors, and Revenue Agents" (13-2081), "Occupational Health and Safety Specialists" (29-9011), "Occupational Health and Safety Technicians" (29-9012), Transportation Security Screeners (33-9093), "Agricultural Inspectors" (45-2011), "Construction and Building Inspectors" (47-4011), and "Transportation Inspectors" (53-6051).

*Illustrative examples: Driver's License Examiner, Environmental Compliance Inspector, Equal Employment Opportunity Officer*

### **13-1051 Cost Estimators**

Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.

*Illustrative examples: Construction Job Cost Estimator, Crating and Moving Estimator, Production Cost Estimator*

### **13-1071 Human Resources Specialists**

Perform activities in the human resource area. Includes employment specialists who screen, recruit, interview, and place workers. Excludes "Compensation, Benefits, and Job Analysis Specialists" (13-1141) and "Training and Development Specialists" (13-1151).

*Illustrative examples: Human Resources Generalist, Personnel Recruiter, Staffing Coordinator*

### **13-1074 Farm Labor Contractors**

Recruit and hire seasonal or temporary agricultural laborers. May transport, house, and provide meals for workers.

*Illustrative example: Harvesting Contractor*

### **13-1075 Labor Relations Specialists**

Resolve disputes between workers and managers, negotiate collective bargaining agreements, or coordinate grievance procedures to handle employee complaints. Excludes equal employment opportunity (EEO) officers who are included in "Compliance Officers" (13-1041).

*Illustrative examples: Employee Relations Specialist, Labor Relations Consultant, Union Representative*

### **13-1081 Logisticians**

Analyze and coordinate the logistical functions of a firm or organization. Responsible for the entire life cycle of a product, including acquisition, distribution, internal allocation, delivery, and final disposal of resources. Excludes "Transportation, Storage, and Distribution Managers" (11-3071).

*Illustrative examples: Logistics Analyst, Logistics Planner, Logistics Specialist*

### **13-1111 Management Analysts**

Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants. Excludes "Computer Systems Analysts" (15-1121) and "Operations Research Analysts" (15-2031).

*Illustrative examples: Business Management Analyst, Business Process Consultant, Industrial Analyst*

### **13-1121 Meeting, Convention, and Event Planners**

Coordinate activities of staff, convention personnel, or clients to make arrangements for group meetings, events, or conventions.

*Illustrative examples: Conference Planner, Corporate Meeting Planner, Wedding Planner*

### **13-1131 Fundraisers**

Organize activities to raise funds or otherwise solicit and gather monetary donations or other gifts for an organization. May design and produce promotional materials. May also raise awareness of the organization's work, goals, and financial needs.

*Illustrative examples: Campaign Fundraiser, Donor Relations Officer, Fundraising Officer*

### **13-1141 Compensation, Benefits, and Job Analysis Specialists**

Conduct programs of compensation and benefits and job analysis for employer. May specialize in specific areas, such as position classification and pension programs.

*Illustrative examples: Employee Benefits Specialist, Job Analyst, Retirement Plan Specialist*

### **13-1151 Training and Development Specialists**

Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.

*Illustrative examples: Computer Training Specialist, Corporate Trainer, Workforce Development Specialist*

### **13-1161 Market Research Analysts and Marketing Specialists**

Research market conditions in local, regional, or national areas, or gather information to determine potential sales of a product or service, or create a marketing campaign. May gather information on competitors, prices, sales, and methods of marketing and distribution.

*Illustrative examples: Market Research Specialist, Marketing Consultant, Marketing Forecaster*

### **13-1199 Business Operations Specialists, All Other**

All business operations specialists not listed separately.

*Illustrative examples: Mystery Shopper, Ship Purser*

### **13-2011 Accountants and Auditors**

Examine, analyze, and interpret accounting records to prepare financial statements, give advice, or audit and evaluate statements prepared by others. Install or advise on systems of recording costs or other financial and budgetary data. Excludes "Tax Examiners and Collectors, and Revenue Agents" (13-2081).

*Illustrative examples: Certified Public Accountant, Field Auditor, Internal Auditor*

### **13-2021 Appraisers and Assessors of Real Estate**

Appraise real property and estimate its fair value. May assess taxes in accordance with prescribed schedules.

*Illustrative examples: Land Appraiser, Property Appraiser, Tax Assessor*

### **13-2031 Budget Analysts**

Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports.

*Illustrative examples: Budget Examiner, Budget Officer, Cost Analyst*

### **13-2041 Credit Analysts**

Analyze credit data and financial statements of individuals or firms to determine the degree of risk involved in extending credit or lending money. Prepare reports with credit information for use in decision making.

*Illustrative examples: Credit Assessment Analyst, Credit Risk Analyst*

### **13-2051 Financial Analysts**

Conduct quantitative analyses of information affecting investment programs of public or private institutions.

*Illustrative examples: Corporate Financial Analyst, Corporate Securities Research Analyst, Institutional Commodity Analyst*

### **13-2052 Personal Financial Advisors**

Advise clients on financial plans using knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate. Duties include assessing clients' assets, liabilities, cash flow, insurance coverage, tax status, and financial objectives.

*Illustrative examples: Estate Planner, Individual Pension Advisor, Personal Investment Advisor*

### **13-2053 Insurance Underwriters**

Review individual applications for insurance to evaluate degree of risk involved and determine acceptance of applications.

*Illustrative examples: Automobile and Property Underwriter, Bond Underwriter, Insurance Analyst*

### **13-2061 Financial Examiners**

Enforce or ensure compliance with laws and regulations governing financial and securities institutions and financial and real estate transactions. May examine, verify, or authenticate records.

*Illustrative examples: Bank Examiner, Financial Compliance Examiner, Home Mortgage Disclosure Act Specialist*

### **13-2071 Credit Counselors**

Advise and educate individuals or organizations on acquiring and managing debt. May provide guidance in determining the best type of loan and explaining loan requirements or restrictions. May help develop debt management plans, advise on credit issues, or provide budget, mortgage, and bankruptcy counseling.

*Illustrative examples: Debt Management Counselor, Financial Assistance Advisor, Loan Counselor*

**13-2072 Loan Officers**

Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and payment methods. Includes mortgage loan officers and agents, collection analysts, loan servicing officers, and loan underwriters.  
*Illustrative examples: Commercial Lender, Loan Reviewer, Real Estate Loan Officer*

**13-2081 Tax Examiners and Collectors, and Revenue Agents**

Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.  
*Illustrative examples: Internal Revenue Service Agent, Revenue Collector, Tax Investigator*

**13-2082 Tax Preparers**

Prepare tax returns for individuals or small businesses. Excludes "Accountants and Auditors" (13-2011).  
*Illustrative examples: Income Tax Advisor, Income Tax Preparer, Licensed Tax Consultant*

**13-2099 Financial Specialists, All Other**

All financial specialists not listed separately.  
*Illustrative examples: Bail Bondsman, Executor of Estate, Foreign Exchange Trader*

**BLANK PAGE**

## **15-000 – COMPUTER AND MATHEMATICAL OCCUPATIONS**

### **15-1111 Computer and Information Research Scientists**

Conduct research into fundamental computer and information science as theorists, designers, or inventors. Develop solutions to problems in the field of computer hardware and software. *Illustrative examples: Control System Computer Scientist, Computational Theory Scientist, Programming Methodology and Languages Researcher*

### **15-1121 Computer Systems Analysts**

Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.

*Illustrative examples: Applications Analyst, Data Processing Systems Analyst, Information Systems Analyst, Systems Architect*

### **15-1052 Computer Systems Analysts, Non R&D**

*Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.*

### **15-1053 Computer Systems Analysts, R&D**

*These persons spend the majority of their time performing research and development activities related to their work as Computer Systems Analysts.*

### **15-1122 Information Security Analysts**

Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses. Excludes “Computer Network Architects” (15-1143).

*Illustrative examples: Computer Security Specialist, Internet Security Specialist, Network Security Analyst*

### **15-1131 Computer Programmers**

Create, modify, and test the code, forms, and script that allow computer applications to run. Work from specifications drawn up by software developers or other individuals. May assist software developers by analyzing user needs and designing software solutions. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

*Illustrative examples: Applications Programmer, Computer Language Coder, Systems Programmer*

### **15-1022 Computer Programmers, Non R&D**

*Create, modify, and test the code, forms, and script that allow computer applications to run. Work from specifications drawn up by software developers or other individuals. May assist software developers by analyzing user needs and designing software solutions. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.*

### **15-1023 Computer Programmers, R&D**

*These persons spend the majority of their time performing research and development activities relating to computer programming.*

### **15-1132 Software Developers, Applications**

Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.

*Illustrative examples: Computer Applications Engineer, Database Developer, Software Applications Architect, Software Applications Engineer*

### **15-1034 Software Developers, Applications, Non R&D**

*Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.*

### **15-1035 Software Developers, Applications, R&D**

*These persons spend the majority of their time performing research and development activities relating to their work as Software Developers, Applications.*

### **15-1133 Software Developers, Systems Software**

Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering, and mathematical analysis.

*Illustrative examples: Computer Systems Software Architect, Embedded Systems Software Developer, Software Systems Engineer*

### **15-1036 Software Developers, Systems Software, Non R&D**

*Design, develop, and test operating systems-level software, compilers, and network distribution software. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering, and mathematical analysis.*

### **15-1037 Software Developers, Systems Software, R&D**

*These persons spend the majority of their time performing research and development activities relating to their work as Software Developers, Systems Software.*

### **15-1134 Web Developers**

Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. Convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content. Excludes "Multimedia Artists and Animators" (27-1014).  
*Illustrative examples: Internet Developer, Intranet Developer, Web Designer*

### **15-1141 Database Administrators**

Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases. Excludes "Information Security Analysts" (15-1122).  
*Illustrative examples: Database Management System Specialist, Database Security Administrator*

### **15-1142 Network and Computer Systems Administrators**

Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test Web site performance to ensure Web sites operate correctly and without interruption. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software. May supervise computer user support specialists and computer network support specialists. May administer network security measures. Excludes "Information Security Analysts" (15-1122), "Computer User Support Specialists" (15-1151), and "Computer Network Support Specialists" (15-1152).  
*Illustrative examples: Network Coordinator, Network Security Administrator, Wide Area Network Administrator*

### **15-1143 Computer Network Architects**

Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software. Excludes "Information Security Analysts" (15-1122), "Network and Computer Systems Administrators" (15-1142), and "Computer Network Support Specialists" (15-1152).  
*Illustrative examples: Computer Network Engineer, Network Designer, Network Developer*

### **15-1054 Computer Network Architects, Non R&D**

*Design and implement computer and information networks, such as local area network (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. Excludes "Information Security Analysts" (15-1122), "Network and Computer Systems Administrators" (15-1142), and "Computer Network Support Specialists" (15-1152).*

### **15-1055 Computer Network Architects, R&D**

*These persons spend the majority of their time performing research and development activities involving computer and information networks.*

### **15-1151 Computer User Support Specialists**

Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems. Excludes "Network and Computer Systems Administrators" (15-1142).

*Illustrative examples: Desktop Support Specialist, End-User Support Specialist, Help Desk Technician*

### **15-1152 Computer Network Support Specialists**

Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Perform network maintenance to ensure networks operate correctly with minimal interruption. Excludes "Network and Computer Systems Administrators" (15-1142) and "Computer Network Architects" (15-1143).

*Illustrative examples: Network Diagnostic Support Technician, Network Support Technician, Network Technician*

### **15-1199 Computer Occupations, All Other**

All computer occupations not listed separately. Excludes "Computer and Information Systems Managers" (11-3021), "Computer Hardware Engineers" (17-2061), "Electrical and Electronics Engineers" (17-2070), "Computer Science Teachers, Postsecondary" (25-1021), "Multimedia Artists and Animators" (27-1014), "Graphic Designers" (27-1024), "Computer Operators" (43-9011), and "Computer, Automated Teller, and Office Machine Repairers" (49-2011).

*Illustrative example: Computer Laboratory Technician*

### **15-2011 Actuaries**

Analyze statistical data, such as mortality, accident, sickness, disability, and retirement rates and construct probability tables to forecast risk and liability for payment of future benefits. May ascertain insurance rates required and cash reserves necessary to ensure payment of future benefits.

*Illustrative examples: Actuarial Mathematician, Health Actuary, Insurance Actuary*

### **15-2021 Mathematicians**

Conduct research in fundamental mathematics or in application of mathematical techniques to science, management, and other fields. Solve problems in various fields using mathematical methods.

*Illustrative examples: Algebraist, Cryptographer, Cryptographic Vulnerability Analyst*

### **15-2031 Operations Research Analysts**

Formulate and apply mathematical modeling and other optimizing methods to develop and interpret information that assists management with decision making, policy formulation, or other managerial functions. May collect and analyze data and develop decision support software, service, or products. May develop and supply optimal time, cost, or logistics networks for program evaluation, review, or implementation.

*Illustrative examples: Operations Analyst, Procedure Analyst, Process Analyst*

**15-2041 Statisticians**

Develop or apply mathematical or statistical theory and methods to collect, organize, interpret, and summarize numerical data to provide usable information. May specialize in fields such as bio-statistics, agricultural statistics, business statistics, or economic statistics. Includes mathematical and survey statisticians. Excludes "Survey Researchers" (19-3022).

*Illustrative examples: Biostatistician, Statistical Analyst, Time Study Statistician*

**15-2091 Mathematical Technicians**

Apply standardized mathematical formulas, principles, and methodology to technological problems in engineering and physical sciences in relation to specific industrial and research objectives, processes, equipment, and products.

*Illustrative example: Mathematical Engineering Technician*

**15-2099 Mathematical Science Occupations, All Other**

All mathematical scientists not listed separately.

*Illustrative example: Harmonic Analyst*

**BLANK PAGE**

## **17-0000 – ARCHITECTURE & ENGINEERING OCCUPATIONS**

### **17-1011 Architects, Except Landscape and Naval**

Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property. Excludes “Landscape Architects” (17-1012) and “Marine Engineers and Naval Architects” (17-2121).

*Illustrative examples: Building Architect, Building Architectural Designer, Structural Architect*

### **17-1012 Landscape Architects**

Plan and design land areas for projects such as parks and other recreational facilities, airports, highways, hospitals, schools, land subdivisions, and commercial, industrial, and residential sites. *Illustrative examples: Golf Course Architect, Golf Course Designer, Landscape Designer*

### **17-1021 Cartographers and Photogrammetrists**

Collect, analyze, and interpret geographic information provided by geodetic surveys, aerial photographs, and satellite data. Research, study, and prepare maps and other spatial data in digital or graphic form for legal, social, political, educational, and design purposes. May work with Geographic Information Systems (GIS). May design and evaluate algorithms, data structures, and user interfaces for GIS and mapping systems.

*Illustrative examples: Digital Cartographer, Mapper, Topographer*

### **17-1022 Surveyors**

Make exact measurements and determine property boundaries. Provide data relevant to the shape, contour, gravitation, location, elevation, or dimension of land or land features on or near the earth's surface for engineering, mapmaking, mining, land evaluation, construction, and other purposes.

*Illustrative examples: Geodetic Surveyor, Land Surveyor, Mineral Surveyor*

### **17-2011 Aerospace Engineers**

Perform engineering duties in designing, constructing, and testing aircraft, missiles, and spacecraft. May conduct basic and applied research to evaluate adaptability of materials and equipment to aircraft design and manufacture. May recommend improvements in testing equipment and techniques. *Illustrative examples:*

*Aeronautical Engineer, Aircraft Design Engineer, Flight Test Engineer*

### **17-2021 Agricultural Engineers**

Apply knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing of agricultural products.

*Illustrative examples: Agricultural Production Engineer, Agricultural Research Engineer, Farm Equipment Engineer*

### **17-2031 Biomedical Engineers**

Apply knowledge of engineering, biology, and biomechanical principles to the design, development, and evaluation of biological and health systems and products, such as artificial organs, prostheses, instrumentation, medical information systems, and health management and care delivery systems.

*Illustrative examples: Biomaterials Engineer, Bio-Mechanical Engineer, Dialysis Engineer*

**17-2041 Chemical Engineers**

Design chemical plant equipment and devise processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, paper, and pulp, by applying principles and technology of chemistry, physics, and engineering. *Illustrative examples: Fuels Engineer, Plastics Engineer, Polymerization Engineer*

**17-2051 Civil Engineers**

Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems. Includes architectural, structural, traffic, ocean, and geo-technical engineers. Excludes "Hydrologists" (19-2043).

*Illustrative examples: Bridge Engineer, Construction Engineer, Highway Engineer*

**17-2052 Civil Engineers, Non-R&D**

*Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems. Includes architectural, structural, traffic, ocean, and geo-technical engineers.*

**17-2053 Civil Engineers, R&D**

*These persons spend the majority of their time performing research and development activities relating to their work as Civil Engineers.*

**17-2061 Computer Hardware Engineers**

Research, design, develop, or test computer or computer-related equipment for commercial, industrial, military, or scientific use. May supervise the manufacturing and installation of computer or computer-related equipment and components. Excludes "Software Developers, Applications" (15-1132) and "Software Developers, Systems Software" (15-1133).

*Illustrative examples: Computer Hardware Designer, Computer Hardware Developer*

**17-2062 Computer Hardware Engineers, Non-R&D**

*Design, develop, or test computer or computer-related equipment for commercial, industrial, military, or scientific use. May supervise the manufacturing and installation of computer or computer-related equipment and components.*

**17-2063 Computer Hardware Engineers, R&D**

*These persons spend the majority of their time performing research and development activities relating to their work as Computer Hardware Engineers.*

**17-2071 Electrical Engineers**

Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. Excludes "Computer Hardware Engineers" (17-2061).

*Illustrative examples: Electrical Systems Engineer, Illuminating Engineer, Power Distribution Engineer*

**17-2073 Electrical Engineers, Non-R&D**

*Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. Excludes "Computer Hardware Engineers" (17-2061).*

**17-2074 Electrical Engineers, R&D**

*These persons spend the majority of their time performing research and development activities relating to their work as Electrical Engineers.*

**17-2072 Electronics Engineers, Except Computer**

Research, design, develop, or test electronic components and systems for commercial, industrial, military, or scientific use employing knowledge of electronic theory and materials properties. Design electronic circuits and components for use in fields such as telecommunications, aerospace guidance and propulsion control, acoustics, or instruments and controls. Excludes "Computer Hardware Engineers" (17-2061).

*Illustrative examples: Circuit Design Engineer, Electronic Design Automation Engineer, Telecommunication Engineer*

**17-2075 Electronics Engineers, Except Computer, Non-R&D**

*Design, develop, or test electronic components and systems for commercial, industrial, military, or scientific use employing knowledge of electronic theory and materials properties. Design electronic circuits and components. Excludes "Computer Hardware Engineers, Non-R&D" (17-2062).*

**17-2076 Electronics Engineers, Except Computer, R&D**

*These persons spend the majority of their time performing research and development activities relating to their work as Electronics Engineers, Except Computer. Exclude "Computer Hardware Engineers, R&D" (17-2063).*

**17-2081 Environmental Engineers**

Research, design, plan, or perform engineering duties in the prevention, control, and remediation of environmental hazards using various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology.

*Illustrative examples: Environmental Remediation Engineer, Pollution Control Engineer, Soil Engineer, Water Treatment Engineer*

**17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors**

Promote worksite or product safety by applying knowledge of industrial processes, mechanics, chemistry, psychology, and industrial health and safety laws. Includes industrial product safety engineers.

*Illustrative examples: Fire Protection Engineer, Industrial Safety Engineer, Product Safety Engineer*

**17-2112 Industrial Engineers**

Design, develop, test, and evaluate integrated systems for managing industrial production processes, including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination. Excludes "Health and Safety Engineers, Except Mining Safety Engineers and Inspectors" (17-2111).

*Illustrative examples: Efficiency Engineer, Manufacturing Engineer, Packaging Engineer, Production Engineer*

### **17-2121 Marine Engineers and Naval Architects**

Design, develop, and evaluate the operation of marine vessels, ship machinery, and related equipment, such as power supply and propulsion systems.

*Illustrative examples: Marine Architect, Marine Structural Designer, Naval Engineer*

### **17-2131 Materials Engineers**

Evaluate materials and develop machinery and processes to manufacture materials for use in products that must meet specialized design and performance specifications. Develop new uses for known materials. Includes those engineers working with composite materials or specializing in one type of material, such as graphite, metal and metal alloys, ceramics and glass, plastics and polymers, and naturally occurring materials. Includes metallurgists and metallurgical engineers, ceramic engineers, and welding engineers.

*Illustrative examples: Automotive Sheet Metal Engineer, Forensic Materials Engineer, Metallographer*

### **17-2141 Mechanical Engineers**

Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.

*Illustrative examples: Combustion Engineer, Engine Designer, Heating and Cooling Systems Engineer, Tool and Die Engineer*

### **17-2143 Mechanical Engineers, Non-R&D**

*Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.*

### **17-2144 Mechanical Engineers, R&D**

*These persons spend the majority of their time performing research and development activities relating to their work as Mechanical Engineers.*

### **17-2151 Mining and Geological Engineers, Including Mining Safety Engineers**

Conduct sub-surface surveys to identify the characteristics of potential land or mining development sites. May specify the ground support systems, processes and equipment for safe, economical, and environmentally sound extraction or underground construction activities. May inspect areas for unsafe geological conditions, equipment, and working conditions. May design, implement, and coordinate mine safety programs. Excludes "Petroleum Engineers" (17-2171).

*Illustrative examples: Geophysical Engineer, Mineral Engineer, Seismic Engineer*

### **17-2161 Nuclear Engineers**

Conduct research on nuclear engineering projects or apply principles and theory of nuclear science to problems concerned with release, control, and use of nuclear energy and nuclear waste disposal.

*Illustrative examples: Atomic Process Engineer, Nuclear Radiation Engineer, Radiation Engineer, Reactor Engineer*

**17-2171 Petroleum Engineers**

Devise methods to improve oil and gas extraction and production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice.  
*Illustrative examples: Natural Gas Engineer, Oil Drilling Engineer, Oil Exploration Engineer*

**17-2199 Engineers, All Other**

All engineers not listed separately.  
*Illustrative examples: Optical Engineer, Ordnance Engineer, Photonics Engineer, Salvage Engineer*

**17-3011 Architectural and Civil Drafters**

Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works. Use knowledge of building materials, engineering practices, and mathematics to complete drawings.  
*Illustrative examples: Building Drafter, Civil Computer-Aided Design and Drafting Technician, Structural Drafter*

**17-3012 Electrical and Electronics Drafters**

Prepare wiring diagrams, circuit board assembly diagrams, and layout drawings used for the manufacture, installation, or repair of electrical equipment.  
*Illustrative examples: Electrical Computer Aided Design and Drafting Technician, Electrical Systems Drafter, Printed Circuit Board Drafter*

**17-3013 Mechanical Drafters**

Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.  
*Illustrative examples: Aeronautical Drafter, Automotive Design Drafter, Tool and Die Designer*

**17-3019 Drafters, All Other**

All drafters not listed separately.  
*Illustrative examples: Blueprint Tracer, Geological Drafter, Marine Drafter*

**17-3021 Aerospace Engineering and Operations Technicians**

Operate, install, calibrate, and maintain integrated computer/communications systems, consoles, simulators, and other data acquisition, test, and measurement instruments and equipment, which are used to launch, track, position, and evaluate air and space vehicles. May record and interpret test data.  
*Illustrative examples: Altitude Chamber Technician, Flight Data Technician, Wind Tunnel Technician*

**17-3022 Civil Engineering Technicians**

Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists.  
*Illustrative examples: Geotechnical Engineering Technician, Highway Engineering Technician, Structural Engineering Technician*

**17-3023 Electrical and Electronic Engineering Technicians**

Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. Excludes "Broadcast Technicians" (27-4012).

*Illustrative examples: Electrical Design Technician, Lighting Engineering Technician, Semiconductor Development Technician*

**17-3024 Electro-Mechanical Technicians**

Operate, test, maintain, or calibrate unmanned, automated, servo-mechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment at worksites, such as oil rigs, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.

*Illustrative examples: Remotely Piloted Vehicle Engineering Technician, Robotics Testing Technician*

**17-3025 Environmental Engineering Technicians**

Apply theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of environmental problems, including waste treatment and site remediation, under the direction of engineering staff or scientist. May assist in the development of environmental remediation devices.

*Illustrative examples: Air Analysis Engineering Technician, Environmental Remediation Engineering Technician, Pollution Control Engineering Technician*

**17-3026 Industrial Engineering Technicians**

Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May perform time and motion studies on worker operations in a variety of industries for purposes such as establishing standard production rates or improving efficiency.

*Illustrative examples: Motion Study Technician, Production Control Technologist, Time Study Technician*

**17-3027 Mechanical Engineering Technicians**

Apply theory and principles of mechanical engineering to modify, develop, test, or calibrate machinery and equipment under direction of engineering staff or physical scientists.

*Illustrative examples: Gyroscope Engineering Technician, Heat Transfer Technician, Optomechanical Technician*

**17-3029 Engineering Technicians, Except Drafters, All Other**

All engineering technicians, except drafters, not listed separately.

*Illustrative examples: Agricultural Engineering Technician, Biomedical Engineering Technician, Metallurgical Engineering Technician, Optical Engineering Technician*

**17-3031 Surveying and Mapping Technicians**

Perform surveying and mapping duties, usually under the direction of an engineer, surveyor, cartographer, or photogrammetrist to obtain data used for construction, mapmaking, boundary location, mining, or other purposes. May calculate mapmaking information and create maps from source data, such as surveying notes, aerial photography, satellite data, or other maps to show topographical features, political boundaries, and other features. May verify accuracy and completeness of maps. Excludes "Surveyors" (17-1022), "Cartographers and Photogrammetrists" (17-1021), and "Geoscientists, Except Hydrologists and Geographers" (19-2042).

*Illustrative examples: Cartographic Technician, Field Map Technician, GIS Mapping Technician*

**BLANK PAGE**

## **LIFE, PHYSICAL & SOCIAL SCIENCE OCCUPATIONS**

### **19-1011 Animal Scientists**

Conduct research in the genetics, nutrition, reproduction, growth, and development of domestic farm animals.

*Illustrative examples: Animal Nutritionist, Dairy Scientist, Poultry Scientist*

### **19-1012 Food Scientists and Technologists**

Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods; analyze food content to determine levels of vitamins, fat, sugar, and protein; discover new food sources; research ways to make processed foods safe, palatable, and healthful; and apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food.

*Illustrative examples: Dairy Bacteriologist, Enologist, Food Safety Scientist*

### **19-1013 Soil and Plant Scientists**

Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants or trees, shrubs, and nursery stock, their growth in soils, and control of pests; or study the chemical, physical, biological, and mineralogical composition of soils as they relate to plant or crop growth. May classify and map soils and investigate effects of alternative practices on soil and crop productivity.

*Illustrative examples: Arboreal Scientist, Horticulturist, Plant Physiologist*

### **19-1021 Biochemists and Biophysicists**

Study the chemical composition or physical principles of living cells and organisms, their electrical and mechanical energy, and related phenomena. May conduct research to further understanding of the complex chemical combinations and reactions involved in metabolism, reproduction, growth, and heredity. May determine the effects of foods, drugs, serums, hormones, and other substances on tissues and vital processes of living organisms.

*Illustrative examples: Biological Chemist, Clinical Biochemist, Physical Biochemist*

### **19-1022 Microbiologists**

Investigate the growth, structure, development, and other characteristics of microscopic organisms, such as bacteria, algae, or fungi. Includes medical microbiologists who study the relationship between organisms and disease or the effects of antibiotics on microorganisms.

*Illustrative examples: Bacteriologist, Public Health Microbiologist, Virologist*

### **19-1023 Zoologists and Wildlife Biologists**

Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management. May collect and analyze biological data to determine the environmental effects of present and potential use of land and water habitats.

*Illustrative examples: Herpetologist, Ichthyologist, Marine Biologist, Ornithologist*

### **19-1029 Biological Scientists, All Other**

All biological scientists not listed separately.

*Illustrative examples: Embryologist, Osteologist, Paleobotanist*

### **19-1031 Conservation Scientists**

Manage, improve, and protect natural resources to maximize their use without damaging the environment. May conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands. May instruct farmers, agricultural production managers, or ranchers in best ways to use crop rotation, contour plowing, or terracing to conserve soil and water; in the number and kind of livestock and forage plants best suited to particular ranges; and in range and farm improvements, such as fencing and reservoirs for stock watering. Excludes "Zoologists and Wildlife Biologists" (19-1023) and "Foresters" (19-1032).

*Illustrative examples: Grassland Conservationist, Range Ecologist, Soil Conservationist*

### **19-1032 Foresters**

Manage public and private forested lands for economic, recreational, and conservation purposes. May inventory the type, amount, and location of standing timber, appraise the timber's worth, negotiate the purchase, and draw up contracts for procurement. May determine how to conserve wildlife habitats, creek beds, water quality, and soil stability, and how best to comply with environmental regulations. May devise plans for planting and growing new trees, monitor trees for healthy growth, and determine optimal harvesting schedules.

*Illustrative examples: Environmental Protection Forester, Forest Ecologist, Timber Management Specialist*

### **19-1041 Epidemiologists**

Investigate and describe the determinants and distribution of disease, disability, or health outcomes. May develop the means for prevention and control.

*Illustrative examples: Epidemiology Investigator, Malariologist, Pharmacoepidemiologist*

### **19-1042 Medical Scientists, Except Epidemiologists**

Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation, research and development, or other related activities. Includes physicians, dentists, public health specialists, pharmacologists, and medical pathologists who primarily conduct research. Practitioners who primarily provide medical or dental care or dispense drugs are included in "Health Diagnosing and Treating Practitioners" (29-1000).

*Illustrative examples: Cancer Researcher, Immunochemist, Toxicologist*

### **19-1099 Life Scientists, All Other**

All life scientists not listed separately.

*Illustrative example: Life Science Taxonomist*

### **19-2011 Astronomers**

Observe, research, and interpret astronomical phenomena to increase basic knowledge or apply such information to practical problems.

*Illustrative example: Astrophysicist*

### **19-2012 Physicists**

Conduct research into physical phenomena, develop theories on the basis of observation and experiments, and devise methods to apply physical laws and theories. Excludes "Biochemists and Biophysicists" (19-1021). *Illustrative examples: Fluid Dynamicist, Molecular Physicist, Optical Scientist, Rheologist*

### **19-2021 Atmospheric and Space Scientists**

Investigate atmospheric phenomena and interpret meteorological data, gathered by surface and air stations, satellites, and radar to prepare reports and forecasts for public and other uses. Includes weather analysts and forecasters whose functions require the detailed knowledge of meteorology. *Illustrative examples: Atmospheric Chemist, Climatologist, Hurricane Tracker, Meteorologist*

### **19-2031 Chemists**

Conduct qualitative and quantitative chemical analyses or experiments in laboratories for quality or process control or to develop new products or knowledge. Excludes "Geoscientists, Except Hydrologists and Geographers" (19-2042) and "Biochemists and Biophysicists" (19-1021).

*Illustrative examples: Food Chemist, Industrial Chemist, Inorganic Chemist, Research and Development Chemist*

### **19-2032 Materials Scientists**

Research and study the structures and chemical properties of various natural and synthetic or composite materials, including metals, alloys, rubber, ceramics, semiconductors, polymers, and glass. Determine ways to strengthen or combine materials or develop new materials with new or specific properties for use in a variety of products and applications. Includes glass scientists, ceramic scientists, metallurgical scientists, and polymer scientists.

*Illustrative examples: Metal Alloy Scientist, Plastics Scientist*

### **19-2041 Environmental Scientists and Specialists, Including Health**

Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources. Excludes "Zoologists and Wildlife Biologists" (19-1023), "Conservation Scientists" (19-1031), "Forest and Conservation Technicians" (19-4093), "Fish and Game Wardens" (33-3031), and "Forest and Conservation Workers" (45-4011).

*Illustrative examples: Hazardous Substances Scientist, Health Environmentalist, Water Pollution Scientist*

### **19-2042 Geoscientists, Except Hydrologists and Geographers**

Study the composition, structure, and other physical aspects of the Earth. May use geological, physics, and mathematics knowledge in exploration for oil, gas, minerals, or underground water; or in waste disposal, land reclamation, or other environmental problems. May study the Earth's internal composition, atmospheres, oceans, and its magnetic, electrical, and gravitational forces. Includes mineralogists, crystallographers, paleontologists, stratigraphers, geodesists, and seismologists.

*Illustrative examples: Geochemist, Oceanographer, Petrologist, Volcanologist*

### **19-2043 Hydrologists**

Research the distribution, circulation, and physical properties of underground and surface waters; and study the form and intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere.

*Illustrative examples: Hydrogeologist, Isotope Hydrologist, Surface Hydrologist*

**19-2044 Environmental Scientists and Specialists, Including Health, Non-R&D**  
*Study or perform investigations for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources. Excludes "Zoologists and Wildlife Biologists" (19-1023), "Conservation Scientists" (19-1031), "Forest and Conservation Technicians" (19-4093), "Fish and Game Wardens" (33-3031), and "Forest and Conservation Workers" (45-4011).*

**19-2045 Environmental Scientists and Specialists, Including Health, R&D**  
*These persons spend the majority of their time performing research and development activities relating to their work as Environmental Scientists and Specialists, Including Health*

**19-2099 Physical Scientists, All Other**  
All physical scientists not listed separately.

**19-3011 Economists**

Conduct research, prepare reports, or formulate plans to address economic problems related to the production and distribution of goods and services or monetary and fiscal policy. May collect and process economic and statistical data using sampling techniques and econometric methods. Excludes "Market Research Analysts and Marketing Specialists" (13-1161). *Illustrative examples: Econometrician, Economic Research Analyst, Environmental Economist, Industrial Economist*

**19-3022 Survey Researchers**

Plan, develop, or conduct surveys. May analyze and interpret the meaning of survey data, determine survey objectives, or suggest or test question wording. Includes social scientists who primarily design questionnaires or supervise survey teams. Excludes "Market Research Analysts and Marketing Specialists" (13-1161) and "Statisticians" (15-2041). *Illustrative examples: Pollster, Survey Methodologist, Survey Questionnaire Designer*

**19-3031 Clinical, Counseling, and School Psychologists**

Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems, using individual, child, family, and group therapies. May design and implement behavior modification programs. *Illustrative examples: Child Psychologist, Geropsychologist, School Psychologist, Vocational Psychologist*

**19-3032 Industrial-Organizational Psychologists**

Apply principles of psychology to human resources, administration, management, sales, and marketing problems. Activities may include policy planning; employee testing and selection, training and development; and organizational development and analysis. May work with management to organize the work setting to improve worker productivity.

*Illustrative examples: Engineering Psychologist, Human Resources Psychologist, Management Psychologist*

**19-3036 Clinical, Counseling, and School Psychologists, Non R&D**

*Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems, using individual, child, family, and group therapies. May design and implement behavior modification programs.*

**19-3037 Clinical, Counseling, and School Psychologists, R&D**

*These persons spend the majority of their time conducting research on treatment of mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems.*

**19-3039 Psychologists, All Other**

All psychologists not listed separately. *Illustrative examples: Forensic Psychologist,*

**19-3041 Sociologists**

Study human society and social behavior by examining the groups and social institutions that people form, as well as various social, religious, political, and business organizations. May study the behavior and interaction of groups, trace their origin and growth, and analyze the influence of group activities on individual members.

*Illustrative examples: Criminologist, Family Sociologist, Rural Sociologist*

**19-3051 Urban and Regional Planners**

Develop comprehensive plans and programs for use of land and physical facilities of jurisdictions, such as towns, cities, counties, and metropolitan areas.

*Illustrative examples: City Planner, Community Development Planner*

**19-3091 Anthropologists and Archeologists**

Study the origin, development, and behavior of human beings. May study the way of life, language, or physical characteristics of people in various parts of the world. May engage in systematic recovery and examination of material evidence, such as tools or pottery remaining from past human cultures, in order to determine the history, customs, and living habits of earlier civilizations.

*Illustrative examples: Ethnoarcheologist, Political Anthropologist, Research Archeologist*

**19-3092 Geographers**

Study the nature and use of areas of the Earth's surface, relating and interpreting interactions of physical and cultural phenomena. Conduct research on physical aspects of a region, including land forms, climates, soils, plants, and animals, and conduct research on the spatial implications of human activities within a given area, including social characteristics, economic activities, and political organization, as well as researching interdependence between regions at scales ranging from local to global.

*Illustrative examples: Economic Geographer, Geomorphologist, GIS Geographer, Political Geographer*

**19-3093 Historians**

Research, analyze, record, and interpret the past as recorded in sources, such as government and institutional records, newspapers and other periodicals, photographs, interviews, films, electronic media, and unpublished manuscripts, such as personal diaries and letters.

*Illustrative examples: Genealogist, Historiographer, Protohistorian*

### **19-3094 Political Scientists**

Study the origin, development, and operation of political systems. May study topics, such as public opinion, political decision-making, and ideology. May analyze the structure and operation of governments, as well as various political entities. May conduct public opinion surveys, analyze election results, or analyze public documents. Excludes "Survey Researchers" (19-3022).

*Illustrative examples: Government Affairs Specialist, Political Consultant, Political Research Scientist*

### **19-3099 Social Scientists and Related Workers, All Other**

All social scientists and related workers not listed separately.

*Illustrative examples: Demographer, Ethnologist, Linguist*

### **19-4011 Agricultural and Food Science Technicians**

Work with agricultural and food scientists in food, fiber, and animal research, production, and processing; and assist with animal breeding and nutrition. Conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects. Includes technicians who assist food scientists or technologists in the research and development of production technology, quality control, packaging, processing, and use of foods.

*Illustrative examples: Dairy Technologist, Feed Research Technician, Seed Analyst*

### **19-4021 Biological Technicians**

Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results. May analyze organic substances, such as blood, food, and drugs.

*Illustrative examples: Bacteriology Technician, Marine Fisheries Technician, Wildlife Technician*

### **19-4031 Chemical Technicians**

Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences. *Illustrative examples: Assayer, Chemical Laboratory Technician, Inorganic Chemical Technician*

### **19-4041 Geological and Petroleum Technicians**

Assist scientists or engineers in the use of electronic, sonic, or nuclear measuring instruments in both laboratory and production activities to obtain data indicating potential resources such as metallic ore, minerals, gas, coal, or petroleum. Analyze mud and drill cuttings. Chart pressure, temperature, and other characteristics of wells or bore holes. Investigate and collect information leading to the possible discovery of new metallic ore, minerals, gas, coal, or petroleum deposits.

*Illustrative examples: Crude Tester, Geophysical Prospector, Seismic Observer*

### **19-4051 Nuclear Technicians**

Assist nuclear physicists, nuclear engineers, or other scientists in laboratory or production activities. May operate, maintain, or provide quality control for nuclear testing and research equipment. May monitor radiation.

*Illustrative examples: Nuclear Monitoring Technician, Radiochemical Technician*

**19-4061 Social Science Research Assistants**

Assist social scientists in laboratory, survey, and other social science research. May help prepare findings for publication and assist in laboratory analysis, quality control, or data management. Excludes "Graduate Teaching Assistants" (25-1191).

*Illustrative examples: City Planning Aide, Economic Research Assistant, Historian Research Assistant*

**19-4091 Environmental Science and Protection Technicians, Including Health**

Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist. May collect samples of gases, soil, water, and other materials for testing.

*Illustrative examples: Groundwater Monitoring Technician, Infectious Waste Technician, Pollution Control Technician, Waste Minimization Technician*

**19-4092 Forensic Science Technicians**

Collect, identify, classify, and analyze physical evidence related to criminal investigations. Perform tests on weapons or substances, such as fiber, hair, and tissue to determine significance to investigation. May testify as expert witnesses on evidence or crime laboratory techniques. May serve as specialists in area of expertise, such as ballistics, fingerprinting, handwriting, or biochemistry.

*Illustrative examples: Ballistics Expert, Crime Scene Technician, Trace Evidence Technician*

**19-4093 Forest and Conservation Technicians**

Provide technical assistance regarding the conservation of soil, water, forests, or related natural resources. May compile data pertaining to size, content, condition, and other characteristics of forest tracts, under the direction of foresters; or train and lead forest workers in forest propagation, fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats. Excludes "Conservation Scientists" (19-1031) and "Foresters" (19-1032).

*Illustrative examples: Forestry Aide, Soil Conservation Technician, Timber Management Technician*

**19-4099 Life, Physical, and Social Science Technicians, All Other**

All life, physical, and social science technicians not listed separately.

*Illustrative examples: Meteorological Aide, Polygraph Examiner*

**BLANK PAGE**

## **COMMUNITY & SOCIAL SERVICE OCCUPATIONS**

### **21-1011 Substance Abuse and Behavioral Disorder Counselors**

Counsel and advise individuals with alcohol, tobacco, drug, or other problems, such as gambling and eating disorders. May counsel individuals, families, or groups or engage in prevention programs. Excludes "Social Workers" (21-1021 through 21-1029), "Psychologists" (19-3031 through 19-3039), and "Mental Health Counselors" (21-1014) providing these services.

*Illustrative examples: Addiction Counselor, Alcohol and Drug Counselor, Chemical Dependency Counselor*

### **21-1012 Educational, Guidance, School, and Vocational Counselors**

Counsel individuals and provide group educational and vocational guidance services.

*Illustrative examples: Career Counselor, Career Technical Counselor*

### **21-1013 Marriage and Family Therapists**

Diagnose and treat mental and emotional disorders, whether cognitive, affective, or behavioral, within the context of marriage and family systems. Apply psychotherapeutic and family systems theories and techniques in the delivery of services to individuals, couples, and families for the purpose of treating such diagnosed nervous and mental disorders. Excludes "Social Workers" (21-1021 through 21-1029) and "Psychologists" of all types (19-3031 through 19-3039). *Illustrative examples: Child and Family Counselor, Couples Therapist, Marriage Counselor*

### **21-1014 Mental Health Counselors**

Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental and emotional health. May help individuals deal with issues associated with addictions and substance abuse; family, parenting, and marital problems; stress management; self-esteem; and aging. Excludes "Social Workers" (21-1021 through 21-1029), "Psychiatrists" (29-1066), and "Psychologists" (19-3031 through 19-3039).

*Illustrative examples: Licensed Clinical Mental Health Counselor (LCMHC), Licensed Mental Health Counselor (LMHC)*

### **21-1015 Rehabilitation Counselors**

Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life. Coordinate activities for residents of care and treatment facilities. Assess client needs and design and implement rehabilitation programs that may include personal and vocational counseling, training, and job placement.

*Illustrative examples: Psychosocial Rehabilitation Counselor, Veterans Rehabilitation Counselor, Vocational Rehabilitation Counselor*

### **21-1019 Counselors, All Other**

All counselors not listed separately.

*Illustrative examples: Anger Control Counselor, Grief Counselor, Sexual Assault Counselor*

### **21-1021 Child, Family, and School Social Workers**

Provide social services and assistance to improve the social and psychological functioning of children and their families and to maximize the family well-being and the academic functioning of children. May assist parents, arrange adoptions, and find foster homes for abandoned or abused children. In schools, they address such problems as teenage pregnancy, misbehavior, and truancy. May also advise teachers. *Illustrative examples: Certified Children, Youth, and Family Social Worker; Child Abuse Worker; Foster Care worker*

### **21-1022 Healthcare Social Workers**

Provide individuals, families, and groups with the psychosocial support needed to cope with chronic, acute, or terminal illnesses. Services include advising family care givers, providing patient education and counseling, and making referrals for other services. May also provide care and case management or interventions designed to promote health, prevent disease, and address barriers to access to healthcare. *Illustrative examples: Hospice Social Worker, Oncology Social Worker, Public Health Social Worker*

### **21-1023 Mental Health and Substance Abuse Social Workers**

Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs. Activities may include individual and group therapy, crisis intervention, case management, client advocacy, prevention, and education.

*Illustrative examples: Community Mental Health Social Worker, Drug Abuse Social Worker, Psychiatric Social Worker*

### **21-1029 Social Workers, All Other**

All social workers not listed separately.

*Illustrative examples: Criminal Justice Social Worker, Forensic Social Worker, Sexual Assault Social Worker*

### **21-1091 Health Educators**

Provide and manage health education programs that help individuals, families, and their communities maximize and maintain healthy lifestyles. Collect and analyze data to identify community needs prior to planning, implementing, monitoring, and evaluating programs designed to encourage healthy lifestyles, policies, and environments. May serve as a resource to assist individuals, other healthcare workers, or the community, and may administer fiscal resources for health education programs. Excludes "Community Health Workers" (21-1094).

*Illustrative examples: Community Health Education Coordinator, Diabetes Educator, Public Health Educator*

### **21-1092 Probation Officers and Correctional Treatment Specialists**

Provide social services to assist in rehabilitation of law offenders in custody or on probation or parole. Make recommendations for actions involving formulation of rehabilitation plan and treatment of offender, including conditional release and education and employment stipulations.

*Illustrative examples: Juvenile Probation Officer, Parole Agent, Parole Officer*

**21-1093 Social and Human Service Assistants**

Assist in providing client services in a wide variety of fields, such as psychology, rehabilitation, or social work, including support for families. May assist clients in identifying and obtaining available benefits and social and community services. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or dependent care. Excludes "Rehabilitation Counselors" (21-1015), "Psychiatric Technicians" (29-2053), "Personal Care Aides" (39-9021), and "Eligibility Interviewers, Government Programs" (43-4061).

*Illustrative examples: Case Work Aide, Family Service Assistant, Human Services Worker*

**21-1094 Community Health Workers**

Assist individuals and communities to adopt healthy behaviors. Conduct outreach for medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community health. May provide information on available resources, provide social support and informal counseling, advocate for individuals and community health needs, and provide services such as first aid and blood pressure screening. May collect data to help identify community health needs. Excludes "Health Educators" (21-1091).

*Illustrative examples: Lay Health Advocate, Peer Health Promoter*

**21-1099 Community and Social Service Specialists, All Other**

All community and social service specialists not listed separately.

*Illustrative examples: Community Organization Worker, Veterans Service Officer*

**21-2011 Clergy**

Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination. Provide spiritual and moral guidance and assistance to members.

*Illustrative examples: Imam, Priest, Rabbi*

**21-2021 Directors, Religious Activities and Education**

Plan, direct, or coordinate programs designed to promote the religious education or activities of a denominational group. May provide counseling and guidance relative to marital, health, financial, and religious problems.

*Illustrative examples: Religious Education Director, Youth Ministry Director*

**21-2099 Religious Workers, All Other**

All religious workers not listed separately.

*Illustrative examples: Missionary, Mohel, Verger*

**BLANK PAGE**

## **LEGAL OCCUPATIONS**

### **23-1011 Lawyers**

Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, or manage or advise clients on legal transactions. May specialize in a single area or may practice broadly in many areas of law. *Illustrative examples: Attorney, Corporate Counsel*

### **23-1012 Judicial Law Clerks**

Assist judges in court or by conducting research or preparing legal documents. Excludes "Lawyers" (23-1011) and "Paralegals and Legal Assistants" (23-2011).

### **23-1021 Administrative Law Judges, Adjudicators, and Hearing Officers**

Conduct hearings to recommend or make decisions on claims concerning government programs or other government-related matters. Determine liability, sanctions, or penalties, or recommend the acceptance or rejection of claims or settlements. Excludes "Arbitrators, Mediators, and Conciliators" (23-1022). *Illustrative example: Appeals Examiner, Justice of the Peace, Traffic Court Referee*

### **23-1022 Arbitrators, Mediators, and Conciliators**

Facilitate negotiation and conflict resolution through dialogue. Resolve conflicts outside of the court system by mutual consent of parties involved. *Illustrative examples: Alternative Dispute Resolution Coordinator, Mediation Commissioner, Ombudsman*

### **23-1023 Judges, Magistrate Judges, and Magistrates**

Arbitrate, advise, adjudicate, or administer justice in a court of law. May sentence defendant in criminal cases according to government statutes or sentencing guidelines. May determine liability of defendant in civil cases. May perform wedding ceremonies. *Illustrative example: Circuit Court Judge, Justice, Tribal Judge*

### **23-2011 Paralegals and Legal Assistants**

Assist lawyers by investigating facts, preparing legal documents, or researching legal precedent. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action. Excludes "Legal Secretaries" (43-6012). *Illustrative example: Legal Aide*

### **23-2091 Court Reporters**

Use verbatim methods and equipment to capture, store, retrieve, and transcribe pretrial and trial proceedings or other information. Includes stenocaptioners who operate computerized stenographic captioning equipment to provide captions of live or prerecorded broadcasts for hearing-impaired viewers. *Illustrative examples: Court Stenographer, Court Transcriber, Deposition Reporter*

### **23-2093 Title Examiners, Abstractors, and Searchers**

Search real estate records, examine titles, or summarize pertinent legal or insurance documents or details for a variety of purposes. May compile lists of mortgages, contracts, and other instruments pertaining to titles by searching public and private records for law firms, real estate agencies, or title insurance companies. *Illustrative example: Escrow Officer, Lien Searcher, Title Officer*

**23-2099 Legal Support Workers, All Other**  
All legal support workers not listed separately.  
*Illustrative example: Legal Technician*

## **25-0000 – EDUCATION, TRAINING & LIBRARY OCCUPATIONS**

### **25-1011 Business Teachers, Postsecondary**

Teach courses in business administration and management, such as accounting, finance, human resources, labor and industrial relations, marketing, and operations research. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Accounting Professor, Finance Professor, Marketing Professor*

### **25-1021 Computer Science Teachers, Postsecondary**

Teach courses in computer science. May specialize in a field of computer science, such as the design and function of computers or operations and research analysis. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative example: Computer Information Systems Professor, Information Technology Professor, Java Programming Professor*

### **25-1022 Mathematical Science Teachers, Postsecondary**

Teach courses pertaining to mathematical concepts, statistics, and actuarial science and to the application of original and standardized mathematical techniques in solving specific problems and situations. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Actuarial Sciences Professor, Calculus Professor, Statistics Professor*

### **25-1031 Architecture Teachers, Postsecondary**

Teach courses in architecture and architectural design, such as architectural environmental design, interior architecture/design, and landscape architecture. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Architectural Design Professor, Landscape Architecture Professor*

### **25-1032 Engineering Teachers, Postsecondary**

Teach courses pertaining to the application of physical laws and principles of engineering for the development of machines, materials, instruments, processes, and services. Includes teachers of subjects such as chemical, civil, electrical, industrial, mechanical, mineral, and petroleum engineering. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

Excludes "Computer Science Teachers, Postsecondary" (25-1021).

*Illustrative examples: Aeronautical Engineering Professor, Civil Engineering Professor, Electrical Engineering Professor, Marine Engineering Professor*

### **25-1041 Agricultural Sciences Teachers, Postsecondary**

Teach courses in the agricultural sciences. Includes teachers of agronomy, dairy sciences, fisheries management, horticultural sciences, poultry sciences, range management, and agricultural soil conservation. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

Excludes "Forestry and Conservation Science Teachers, Postsecondary" (25-1043).

*Illustrative examples: Agronomy Professor, Aquaculture and Fisheries Professor, Farm Management Professor*

**25-1042 Biological Science Teachers, Postsecondary**

Teach courses in biological sciences. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Bacteriology Professor, Biochemistry Professor, Botany Professor*

**25-1043 Forestry and Conservation Science Teachers, Postsecondary**

Teach courses in forestry and conservation science. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

Excludes "Agricultural Science Teachers, Postsecondary" (25-1041) and "Environmental Science Teachers, Postsecondary" (25-1053). *Illustrative examples: Forest Ecology Professor, Timber Management Professor, Wildlife Conservation Professor*

**25-1051 Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary**

Teach courses in the physical sciences, except chemistry and physics. Includes both teachers primarily engaged in teaching, and those who do a combination of teaching and research.

*Illustrative examples: Climatology Professor, Geology Professor, Oceanography Professor*

**25-1052 Chemistry Teachers, Postsecondary**

Teach courses pertaining to the chemical and physical properties and compositional changes of substances. Work may include instruction in the methods of qualitative and quantitative chemical analysis. Includes both teachers primarily engaged in teaching, and those who do a combination of teaching and research. Excludes "Biological Science Teachers, Postsecondary" (25-1042) who teach biochemistry. *Illustrative examples: Inorganic Chemistry Professor, Organic Chemistry Professor, Physical Chemistry Professor*

**25-1053 Environmental Science Teachers, Postsecondary**

Teach courses in environmental science. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Environmental Science, Management, and Policy Professor; Environmental Studies Professor*

**25-1054 Physics Teachers, Postsecondary**

Teach courses pertaining to the laws of matter and energy. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Astrophysics Professor, Ballistics Professor, Hydrodynamics Professor, Thermodynamics Professor*

**25-1061 Anthropology and Archeology Teachers, Postsecondary**

Teach courses in anthropology or archeology. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Cultural Anthropology Professor, Ethnoarchaeology Professor, Paleology Professor*

**25-1062 Area, Ethnic, and Cultural Studies Teachers, Postsecondary**

Teach courses pertaining to the culture and development of an area, an ethnic group, or any other group, such as Latin American studies, women's studies, or urban affairs. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Ethnology Professor, Latin American Studies Professor, Women's Studies Professor*

**25-1063 Economics Teachers, Postsecondary**

Teach courses in economics. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Agricultural Economics Professor, Econometrics Professor, Labor Economics Professor*

**25-1064 Geography Teachers, Postsecondary**

Teach courses in geography. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Cartography Professor, Geomatics Professor, GIS Professor*

**25-1065 Political Science Teachers, Postsecondary**

Teach courses in political science, international affairs, and international relations. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research. *Illustrative examples: Government Professor, International Relations Professor, Public Policy Professor*

**25-1066 Psychology Teachers, Postsecondary**

Teach courses in psychology, such as child, clinical, and developmental psychology, and psychological counseling. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Child Development Professor, Educational Psychology Professor, Industrial/Organizational Psychology Professor*

**25-1067 Sociology Teachers, Postsecondary**

Teach courses in sociology. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative example: Comparative Sociology Professor*

**25-1069 Social Sciences Teachers, Postsecondary, All Other**

All postsecondary social sciences teachers not listed separately.

*Illustrative examples: Survey Research Professor, Urban Planning Professor*

**25-1071 Health Specialties Teachers, Postsecondary**

Teach courses in health specialties, in fields such as dentistry, laboratory technology, medicine, pharmacy, public health, therapy, and veterinary medicine. Excludes "Nursing Instructors and Teachers, Postsecondary" (25-1072) and "Biological Science Teachers, Postsecondary" (25-1042) who teach medical science.

*Illustrative examples: Nutrition Professor, Pharmacology Professor, Public Health Professor*

### **25-1072 Nursing Instructors and Teachers, Postsecondary**

Demonstrate and teach patient care in classroom and clinical units to nursing students. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Advanced Nursing Professor, Clinical Nursing Professor, Registered Nursing Professor*

### **25-1081 Education Teachers, Postsecondary**

Teach courses pertaining to education, such as counseling, curriculum, guidance, instruction, teacher education, and teaching English as a second language. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Primary Education Professor, Special Education Professor*

### **25-1082 Library Science Teachers, Postsecondary**

Teach courses in library science. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Library and Information Science Professor, Medical Records Library Professor*

### **25-1111 Criminal Justice and Law Enforcement Teachers, Postsecondary**

Teach courses in criminal justice, corrections, and law enforcement administration. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Criminology Professor, Penology Professor*

### **25-1112 Law Teachers, Postsecondary**

Teach courses in law. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Constitutional Law Professor, Environmental Law Professor, Torts Law Professor*

### **25-1113 Social Work Teachers, Postsecondary**

Teach courses in social work. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Family Welfare Social Work Professor, Geriatric Social Work Professor, Health Social Work Professor*

### **25-1121 Art, Drama, and Music Teachers, Postsecondary**

Teach courses in drama, music, and the arts including fine and applied art, such as painting and sculpture, or design and crafts. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Ballet Professor, Photography Professor, Piano Professor*

### **25-1122 Communications Teachers, Postsecondary**

Teach courses in communications, such as organizational communications, public relations, radio/television broadcasting, and journalism. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Journalism Professor, Public Speaking Professor*

**25-1123 English Language and Literature Teachers, Postsecondary**

Teach courses in English language and literature, including linguistics and comparative literature. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Contemporary English Literature Professor, Creative Writing English Professor, Etymology Professor*

**25-1124 Foreign Language and Literature Teachers, Postsecondary**

Teach languages and literature courses in languages other than English. Includes teachers of American Sign Language (ASL). Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Chinese Language Professor, Russian Language Professor, Spanish Literature Professor*

**25-1125 History Teachers, Postsecondary**

Teach courses in human history and historiography. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: African History Professor, American History Professor, Jewish History Professor, Russian History Professor*

**25-1126 Philosophy and Religion Teachers, Postsecondary**

Teach courses in philosophy, religion, and theology. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Divinity Professor, Eastern Philosophy Professor, Theology Professor*

**25-1191 Graduate Teaching Assistants**

Assist faculty or other instructional staff in postsecondary institutions by performing teaching or teaching-related duties, such as teaching lower level courses, developing teaching materials, preparing and giving examinations, and grading examinations or papers. Graduate teaching assistants must be enrolled in a graduate school program. Graduate assistants who primarily perform non-teaching duties, such as research, should be reported in the occupational category related to the work performed. Excludes "Teacher Assistants" (25-9041).

*Illustrative examples: Graduate Student Instructor, Teaching Fellow*

**25-1192 Home Economics Teachers, Postsecondary**

Teach courses in childcare, family relations, finance, nutrition, and related subjects pertaining to home management. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Family and Consumer Sciences Professor, Weaving Professor*

**25-1193 Recreation and Fitness Studies Teachers, Postsecondary**

Teach courses pertaining to recreation, leisure, and fitness studies, including exercise physiology and facilities management. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

*Illustrative examples: Kinesiology Professor, Leisure Studies Professor, Physical Education (PE ) Professor*

### **25-1194 Vocational Education Teachers, Postsecondary**

Teach or instruct vocational or occupational subjects at the postsecondary level (but at less than the baccalaureate) to students who have graduated or left high school. Includes correspondence school, industrial, and commercial instructors; and adult education teachers and instructors who prepare persons to operate industrial machinery and equipment and transportation and communications equipment. Teaching may take place in public or private schools whose primary business is education or in a school associated with an organization whose primary business is other than education.

*Illustrative examples: Barbering Instructor, Cosmetology Professor, Mechanical Maintenance Instructor*

### **25-1199 Postsecondary Teachers, All Other**

All postsecondary teachers not listed separately.

*Illustrative examples: Military Science Teacher, Project Management Professor*

### **25-2011 Preschool Teachers, Except Special Education**

Instruct preschool-aged children in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099). Excludes "Childcare Workers" (39-9011) and "Special Education Teachers" (25-2050).

*Illustrative examples: Head Start Teacher, Nursery School Teacher, Pre-Kindergarten Teacher*

### **25-2012 Kindergarten Teachers, Except Special Education**

Teach elemental natural and social science, personal hygiene, music, art, and literature to kindergarten students. Promote physical, mental, and social development. May be required to hold State certification. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099). Excludes "Special Education Teachers" (25-2050).

*Illustrative example: Bilingual Kindergarten Teacher*

### **25-2021 Elementary School Teachers, Except Special Education**

Teach students basic academic, social, and other formative skills in public or private schools at the elementary level. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099). Excludes "Special Education Teachers" (25-2050).

*Illustrative examples: Elementary School Band Director, 4<sup>th</sup> Grade Math Teacher*

### **25-2022 Middle School Teachers, Except Special and Career/Technical Education**

Teach students in one or more subjects in public or private schools at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable laws and regulations. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099). Excludes "Career/Technical Education Teachers, Middle School" (25-2023) and "Special Education Teachers" (25-2050).

*Illustrative examples: Junior High School Teacher, Middle School Science Teacher, 7<sup>th</sup> Grade Social Studies Teacher*

### **25-2023 Career/Technical Education Teachers, Middle School**

Teach occupational, career and technical, or vocational subjects in public or private schools at the middle, intermediate, or junior high level, which falls between elementary and senior high school as defined by applicable laws and regulations. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099). Excludes "Special Education Teachers" (25-2050). *Illustrative example: Middle School Vocational Education Teacher*

### **25-2031 Secondary School Teachers, Except Special and Career/Technical Education**

Teach students in one or more subjects, such as English, mathematics, or social studies at the secondary level in public or private schools. May be designated according to subject matter specialty. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099). Excludes "Career/Technical Education Teachers, Secondary School" (25-2032) and "Special Education Teachers" (25-2050). *Illustrative examples: High School English Teacher, High School French Teacher, High School History Teacher*

### **25-2032 Career/Technical Education Teachers, Secondary School**

Teach occupational, career and technical, or vocational subjects at the secondary school level in public or private schools. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099). Excludes "Special Education Teachers, Secondary School" (25-2054).

*Illustrative examples: High School Auto Repair Teacher, High School Vocational Education Teacher*

### **25-2051 Special Education Teachers, Preschool**

Teach preschool school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099).

*Illustrative examples: Early Childhood Special Education Teacher, Pre-Kindergarten Special Education Teacher*

### **25-2052 Special Education Teachers, Kindergarten and Elementary School**

Teach elementary school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099).

*Illustrative examples: Severe Emotional Disorders Elementary School Teacher, Special Education Kindergarten Teacher*

### **25-2053 Special Education Teachers, Middle School**

Teach middle school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099).

*Illustrative examples: Middle School Special Education Teacher, Middle School Teacher for Students with Moderate Intellectual Disabilities*

### **25-2054 Special Education Teachers, Secondary School**

Teach secondary school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally impaired. Substitute teachers are included in "Teachers and Instructors, All Other" (25-3099).

*Illustrative examples: High School Learning Support Teacher, High School Special Education Teacher*

### **25-2059 Special Education Teachers, All Other**

All special education teachers not listed separately.

*Illustrative examples: Autism Tutor, Special Education Teacher for Adults with Disabilities*

### **25-3011 Adult Basic and Secondary Education and Literacy Teachers and Instructors**

Teach or instruct out-of-school youths and adults in remedial education classes, preparatory classes for the General Educational Development test, literacy, or English as a Second Language. Teaching may or may not take place in a traditional educational institution.

*Illustrative examples: Adult Education Teacher, Adult Literacy Instructor, Generalized Educational Development (GED) Teacher*

### **25-3021 Self-Enrichment Education Teachers**

Teach or instruct courses other than those that normally lead to an occupational objective or degree. Courses may include self-improvement, nonvocational, and nonacademic subjects. Teaching may or may not take place in a traditional educational institution. Excludes "Fitness Trainers and Aerobics Instructors" (39-9031). Flight instructors are included with "Aircraft Pilots and Flight Engineers" (53-2010).

*Illustrative examples: Citizenship Teacher, Horseback Riding Instructor, Sailing Instructor*

### **25-3098 Substitute Teachers**

*Teach students in a public or private school when the regular teacher is unavailable.*

### **25-3099 Teachers and Instructors, All Other**

All teachers and instructors not listed separately.

*Illustrative example: Tutor, Substitute Teacher*

### **25-4011 Archivists**

Appraise, edit, and direct safekeeping of permanent records and historically valuable documents. Participate in research activities based on archival materials.

*Illustrative examples: Film Archivist, Historical Records Administrator, Reference Archivist*

### **25-4012 Curators**

Administer collections, such as artwork, collectibles, historic items, or scientific specimens of museums or other institutions. May conduct instructional, research, or public service activities of institution.

*Illustrative examples: Herbarium Curator, Photography and Prints Curator*

### **25-4013 Museum Technicians and Conservators**

Restore, maintain, or prepare objects in museum collections for storage, research, or exhibit. May work with specimens such as fossils, skeletal parts, or botanicals; or artifacts, textiles, or art. May identify and record objects or install and arrange them in exhibits. Includes book or document conservators.

*Illustrative examples: Ethnographic Materials Conservator, Museum Exhibit Technician, Textile Conservator*

### **25-4021 Librarians**

Administer libraries and perform related library services. Work in a variety of settings, including public libraries, educational institutions, museums, corporations, government agencies, law firms, non-profit organizations, and healthcare providers. Tasks may include selecting, acquiring, cataloguing, classifying, circulating, and maintaining library materials; and furnishing reference, bibliographical, and readers' advisory services. May perform in-depth, strategic research, and synthesize, analyze, edit, and filter information. May set up or work with databases and information systems to catalogue and access information.

*Illustrative examples: Law Librarian, Music Librarian, School Librarian*

### **25-4031 Library Technicians**

Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. Compile records; sort and shelve books or other media; remove or repair damaged books or other media; register patrons; and check materials in and out of the circulation process. Replace materials in shelving area (stacks) or files. Includes bookmobile drivers who assist with providing services in mobile libraries.

*Illustrative examples: Library Acquisitions Technician, Library Circulation Technician*

### **25-9011 Audio-Visual and Multimedia Collections Specialists**

Prepare, plan, and operate multimedia teaching aids for use in education. May record, catalogue, and file materials.

*Illustrative examples: Audio-Visual Collections Coordinator, Library Media Specialist, Multimedia Services Coordinator*

### **25-9021 Farm and Home Management Advisors**

Advise, instruct, and assist individuals and families engaged in agriculture, agricultural-related processes, or home economics activities. Demonstrate procedures and apply research findings to solve problems; and instruct and train in product development, sales, and the use of machinery and equipment to promote general welfare. Includes county agricultural agents, feed and farm management advisors, home economists, and extension service advisors.

*Illustrative examples: Agricultural Extension Educator, Family Resource Management Specialist, Feed Management Advisor*

### **25-9031 Instructional Coordinators**

Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Includes educational consultants and specialists, and instructional material directors.

*Illustrative examples: Curriculum and Assessment Director, Curriculum Specialist, Special Education Curriculum Specialist*

**25-9041 Teacher Assistants**

Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher has ultimate responsibility for the design and implementation of educational programs and services. Excludes "Graduate Teaching Assistants" (25-1191).

*Illustrative examples: Instructional Aide, Special Education Classroom Aide*

**25-9099 Education, Training, and Library Workers, All Other**

All education, training, and library workers not listed separately.

*Illustrative examples: General Educational Development (GED) Examiner, Individualized Education Plan (IEP) Aide, Scholastic Aptitude Test (SAT) Grader*

## **27-0000 – ARTS, DESIGN, ENTERTAINMENT, SPORTS & MEDIA OCCUPATIONS**

### **27-1011 Art Directors**

Formulate design concepts and presentation approaches for visual communications media, such as print, broadcasting, and advertising. Direct workers engaged in art work or layout design.

*Illustrative example: Magazine Designer*

### **27-1012 Craft Artists**

Create or reproduce hand-made objects for sale and exhibition using a variety of techniques, such as welding, weaving, pottery, and needlecraft.

*Illustrative examples: Hand Potter, Metal Arts Production Artist, Quilter*

### **27-1013 Fine Artists, Including Painters, Sculptors, and Illustrators**

Create original artwork using any of a wide variety of media and techniques.

*Illustrative examples: Ice Sculptor, Political Cartoonist, Scientific Illustrator, Sketch Artist*

### **27-1014 Multimedia Artists and Animators**

Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.

*Illustrative examples: Special Effects Artist, 3D Animator*

### **27-1019 Artists and Related Workers, All Other**

All artists and related workers not listed separately.

*Illustrative examples: Calligrapher, Tattoo Artist*

### **27-1021 Commercial and Industrial Designers**

Develop and design manufactured products, such as cars, home appliances, and children's toys. Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design.

*Illustrative examples: Automobile Designer, Package Designer*

### **27-1022 Fashion Designers**

Design clothing and accessories. Create original designs or adapt fashion trends.

*Illustrative examples: Costume Designer, Custom Furrier, Dress Designer*

### **27-1023 Floral Designers**

Design, cut, and arrange live, dried, or artificial flowers and foliage.

*Illustrative examples: Corsage Maker, Florist, Flower Arranger*

### **27-1024 Graphic Designers**

Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.

*Illustrative examples: Catalogue Illustrator, Graphic Artist*

**27-1025 Interior Designers**

Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style. May specialize in a particular field, style, or phase of interior design. Excludes "Merchandise Displayers and Window Trimmers" (27-1026).

*Illustrative examples: Home Lighting Advisor, Interior Decorator, Kitchen Designer*

**27-1026 Merchandise Displayers and Window Trimmers**

Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions.

*Illustrative examples: Display Artist, Mannequin Decorator, Window Decorator*

**27-1027 Set and Exhibit Designers**

Design special exhibits and movie, television, and theater sets. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles.

*Illustrative examples: Set Decorator, Stage Scenery Designer*

**27-1029 Designers, All Other**

All designers not listed separately. *Illustrative example: Memorial Marker Designer*

**27-2011 Actors**

Play parts in stage, television, radio, video, motion picture productions, or other settings for entertainment, information, or instruction. Interpret serious or comic role by speech, gesture, and body movement to entertain or inform audience. May dance and sing.

*Illustrative examples: Actress, Dramatic Reader, Voice-Over Artist*

**27-2012 Producers and Directors**

Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as interpretation of script, choice of actors or guests, set design, sound, special effects, and choreography.

*Illustrative examples: Casting Director, Independent Film Maker, Stage Manager*

**27-2021 Athletes and Sports Competitors**

Compete in athletic events.

*Illustrative examples: Football Player, Jockey, Race Car Driver*

**27-2022 Coaches and Scouts**

Instruct or coach groups or individuals in the fundamentals of sports. Demonstrate techniques and methods of participation. May evaluate athletes' strengths and weaknesses as possible recruits or to improve the athletes' technique to prepare them for competition. Those required to hold teaching degrees should be reported in the appropriate teaching category. Excludes "Athletic Trainers" (29-9091).

*Illustrative examples: Baseball Scout, Boxing Trainer, Football Coach*

**27-2023 Umpires, Referees, and Other Sports Officials**

Officiate at competitive athletic or sporting events. Detect infractions of rules and decide penalties according to established regulations. Includes all sporting officials, referees, and competition judges.

*Illustrative examples: Athletic Events Scorer, Paddock Judge, Race Starter*

**27-2031 Dancers**

Perform dances. May perform on stage, for on-air broadcasting, or for video recording  
*Illustrative examples: Ballerina, Dance Artist, Tap Dancer*

**27-2032 Choreographers**

Create new dance routines. Rehearse performance of routines. May direct and stage presentations.

*Illustrative examples: Dance Director, Dance Master*

**27-2041 Music Directors and Composers**

Conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, bands, choirs, and glee clubs. Includes arrangers, composers, choral directors, and orchestrators.

*Illustrative examples: Choirmaster, Jingle Writer, Orchestra Conductor, Songwriter*

**27-2042 Musicians and Singers**

Play one or more musical instruments or sing. May perform on stage, for on-air broadcasting, or for sound or video recording.

*Illustrative examples: Instrumentalist, Oboist, Rapper*

**27-2099 Entertainers and Performers, Sports and Related Workers, All Other**

All entertainers and performers, sports and related workers not listed separately.

*Illustrative examples: Clown, Comedian, Magician*

**27-3011 Radio and Television Announcers**

Speak or read from scripted materials, such as news reports or commercial messages, on radio or television. May announce artist or title of performance, identify station, or interview guests. Excludes "Broadcast News Analysts" (27-3021).

*Illustrative examples: Game Show Host, Radio Disk Jockey, Talk Show Host*

**27-3012 Public Address System and Other Announcers**

Make announcements over public address system at sporting or other public events. May act as master of ceremonies or disc jockey at weddings, parties, clubs, or other gathering places.

*Illustrative examples: Emcee, Ringmaster, Train Caller*

**27-3021 Broadcast News Analysts**

Analyze, interpret, and broadcast news received from various sources.

*Illustrative examples: News Anchor, Newscaster, News Commentator*

**27-3022 Reporters and Correspondents**

Collect and analyze facts about newsworthy events by interview, investigation, or observation. Report and write stories for newspaper, news magazine, radio, or television. Excludes "Broadcast News Analysts" (27-3021).

*Illustrative examples: Columnist, Film Critic, Foreign Correspondent*

**27-3031 Public Relations Specialists**

Engage in promoting or creating an intended public image for individuals, groups, or organizations. May write or select material for release to various communications media.

*Illustrative examples: Lobbyist, Press Secretary, Publicity Writer*

**27-3041 Editors**

Plan, coordinate, or edit content of material for publication. May review proposals and drafts for possible publication. Includes technical editors.

*Illustrative examples: Advertising Editor, Copy Editor, Technical Editor*

**27-3042 Technical Writers**

Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.

*Illustrative examples: Documentation Writer, Medical Writer, Specifications Writer*

**27-3043 Writers and Authors**

Originate and prepare written material, such as scripts, stories, advertisements, and other material. Excludes "Public Relations Specialists" (27-3031) and "Technical Writers" (27-3042).

*Illustrative examples: Advertising Copy Writer, Playwright, Television Writer*

**27-3091 Interpreters and Translators**

Interpret oral or sign language, or translate written text from one language into another.

*Illustrative examples: American Sign Language Interpreter, Court Interpreter, Diplomatic Interpreter*

**27-3099 Media and Communication Workers, All Other**

All media and communication workers not listed separately.

*Illustrative example: Stage Technician*

**27-4011 Audio and Video Equipment Technicians**

Set up, or set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment for concerts, sports events, meetings and conventions, presentations, and news conferences. May also set up and operate associated spotlights and other custom lighting systems. Excludes "Sound Engineering Technicians" (27-4014).

*Illustrative examples: Multimedia Production Assistant, Video Control Operator, Video Production Assistant*

**27-4012 Broadcast Technicians**

Set up, operate, and maintain the electronic equipment used to transmit radio and television programs. Control audio equipment to regulate volume level and quality of sound during radio and television broadcasts. Operate transmitter to broadcast radio or television programs.

*Illustrative examples: Audio Engineer, Broadcast Engineer*

**27-4013 Radio Operators**

Receive and transmit communications using radiotelephone equipment in accordance with government regulations. May repair equipment. Excludes "Radio, Cellular, and Tower Equipment Installers and Repairs" (49-2021).

*Illustrative examples: Radio Officer, Radiophone Operator*

**27-4014 Sound Engineering Technicians**

Operate machines and equipment to record, synchronize, mix, or reproduce music, voices, or sound effects in sporting arenas, theater productions, recording studios, or movie and video productions. *Illustrative examples: Audio Recording Engineer, Sound Editor, Sound Effects Technician*

**27-4021 Photographers**

Photograph people, landscapes, merchandise, or other subjects, using digital or film cameras and equipment. May develop negatives or use computer software to produce finished images and prints. Includes scientific photographers, aerial photographers, and photojournalists.

*Illustrative examples: Marine Photographer, Medical Photographer, Wedding Photographer*

**27-4031 Camera Operators, Television, Video, and Motion Picture**

Operate television, video, or motion picture camera to record images or scenes for various purposes, such as TV broadcasts, advertising, video production, or motion pictures.

*Illustrative examples: Cinematographer, News Videographer*

**27-4032 Film and Video Editors**

Edit moving images on film, video, or other media. May edit or synchronize soundtracks with images. Excludes "Sound Engineering Technicians"(27-4014).

*Illustrative examples: Cue Selector, Film Editor, Television News Video Editor*

**27-4099 Media and Communication Equipment Workers, All Other**

All media and communication equipment workers not listed separately.

*Illustrative examples: Dimmer Board Operator, Satellite Communications Operator, Spotlight Operator*

**BLANK PAGE**

## **29-000 – HEALTHCARE PRACTITIONER & TECHNICAL OCCUPATIONS**

### **29-1011 Chiropractors**

Assess, treat, and care for patients by manipulation of spine and musculoskeletal system. May provide spinal adjustment or address sacral or pelvic misalignment.  
*Illustrative example: Chiropractic Physician*

### **29-1021 Dentists, General**

Examine, diagnose, and treat diseases, injuries, and malformations of teeth and gums. May treat diseases of nerve, pulp, and other dental tissues affecting oral hygiene and retention of teeth. May fit dental appliances or provide preventive care. Excludes "Prosthodontists" (29-1024), "Orthodontists" (29-1023), "Oral and Maxillofacial Surgeons" (29-1022) and "Dentists, All Other Specialists" (29-1029).  
*Illustrative example: Family Dentist*

### **29-1022 Oral and Maxillofacial Surgeons**

Perform surgery and related procedures on the hard and soft tissues of the oral and maxillofacial regions to treat diseases, injuries, or defects. May diagnose problems of the oral and maxillofacial regions. May perform surgery to improve function or appearance.  
*Illustrative example: Dental Surgeon*

### **29-1023 Orthodontists**

Examine, diagnose, and treat dental malocclusions and oral cavity anomalies. Design and fabricate appliances to realign teeth and jaws to produce and maintain normal function and to improve appearance.  
*Illustrative example: Dentofacial Orthopedics Dentist, Invisible Braces Orthodontist, Pediatric Orthodontist*

### **29-1024 Prosthodontists**

Construct oral prostheses to replace missing teeth and other oral structures to correct natural and acquired deformation of mouth and jaws, to restore and maintain oral function, such as chewing and speaking, and to improve appearance.  
*Illustrative examples: Maxillofacial Prosthetics Dentist, Reconstructive Dentist*

### **29-1029 Dentists, All Other Specialists**

All dentists not listed separately.  
*Illustrative examples: Endodontist, Oral Pathologist*

### **29-1031 Dietitians and Nutritionists**

Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease. May supervise activities of a department providing quantity food services, counsel individuals, or conduct nutritional research.  
*Illustrative examples: Clinical Dietitian, Pediatric Dietitian, Public Health Nutritionist*

### **29-1041 Optometrists**

Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment. May prescribe therapeutic drugs to treat specific eye conditions. Ophthalmologists are included in "Physicians and Surgeons, All Other" (29-1069).  
*Illustrative example: Doctor of Optometry*

**29-1051 Pharmacists**

Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.

*Illustrative examples: Apothecary, Hospital Pharmacist*

**29-1061 Anesthesiologists**

Physicians who administer anesthetics prior to, during, or after surgery or other medical procedures.

*Illustrative example: Obstetrical Anesthesiologist*

**29-1062 Family and General Practitioners**

Physicians who diagnose, treat, and help prevent diseases and injuries that commonly occur in the general population. May refer patients to specialists when needed for further diagnosis or treatment.

*Illustrative example: Family Practice Physician*

**29-1063 Internists, General**

Physicians who diagnose and provide non-surgical treatment of diseases and injuries of internal organ systems. Provide care mainly for adults who have a wide range of problems associated with the internal organs. Subspecialists, such as cardiologists and gastroenterologists, are included in "Physicians and Surgeons, All Other" (29-1069).

*Illustrative example: Internal Medicine Physician*

**29-1064 Obstetricians and Gynecologists**

Physicians who provide medical care related to pregnancy or childbirth and those who diagnose, treat, and help prevent diseases of women, particularly those affecting the reproductive system. May also provide general medical care to women.

*Illustrative examples: OB/GYN, OB Specialist*

**29-1065 Pediatricians, General**

Physicians who diagnose, treat, and help prevent children's diseases and injuries.

*Illustrative examples: Paediatrician, Pediatricist, Primary Care Pediatrician*

**29-1066 Psychiatrists**

Physicians who diagnose, treat, and help prevent disorders of the mind.

*Illustrative examples: Addiction Psychiatrist, Geriatric Psychiatrist, Neuropsychiatrist*

**29-1067 Surgeons**

Physicians who treat diseases, injuries, and deformities by invasive, minimally-invasive, or non-invasive surgical methods, such as using instruments, appliances, or by manual manipulation. Excludes "Oral and Maxillofacial Surgeons" (29-1022).

*Illustrative examples: Cardiovascular Surgeon, Orthopedic Surgeon, Plastic Surgeon, Thoracic Surgeon*

**29-1069 Physicians and Surgeons, All Other**

All physicians and surgeons not listed separately.

*Illustrative examples: Cardiologist, Dermatologist, Gastroenterologist, Ophthalmologist*

### **29-1071 Physician Assistants**

Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment, and counsel patients. May, in some cases, prescribe medication. Must graduate from an accredited educational program for physician assistants. Excludes "Emergency Medical Technicians and Paramedics" (29-2041), "Medical Assistants" (31-9092), "Registered Nurses" (29-1141), "Nurse Anesthetists" (29-1151), "Nurse Midwives" (29-1161), and "Nurse Practitioners" (29-1171).

*Illustrative examples: Anesthesiologist Assistant, Family Practice Physician Assistant*

### **29-1081 Podiatrists**

Diagnose and treat diseases and deformities of the human foot.

*Illustrative examples: Chiropodist, Foot Doctor, Foot Orthopedist*

### **29-1122 Occupational Therapists**

Assess, plan, organize, and participate in rehabilitative programs that help build or restore vocational, homemaking, and daily living skills, as well as general independence, to persons with disabilities or developmental delays.

*Illustrative examples: Registered Occupational Therapist*

### **29-1123 Physical Therapists**

Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and improve or correct disabling conditions resulting from disease or injury.

*Illustrative examples: Geriatric Physical Therapist, Physiotherapist, Pulmonary Physical Therapist*

### **29-1124 Radiation Therapists**

Provide radiation therapy to patients as prescribed by a radiologist according to established practices and standards. Duties may include reviewing prescription and diagnosis; acting as liaison with physician and supportive care personnel; preparing equipment, such as immobilization, treatment, and protection devices; and maintaining records, reports, and files. May assist in dosimetry procedures and tumor localization.

*Illustrative examples: Dosimetrist, Radiation Therapy Technologist*

### **29-1125 Recreational Therapists**

Plan, direct, or coordinate medically-approved recreation programs for patients in hospitals, nursing homes, or other institutions. Activities include sports, trips, dramatics, social activities, and arts and crafts. May assess a patient condition and recommend appropriate recreational activity. Excludes "Recreation Workers" (39-9032).

*Illustrative examples: Certified Recreational Therapist, Drama Therapist, Therapeutic Recreation Specialist*

### **29-1126 Respiratory Therapists**

Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.

*Illustrative examples: Inhalation Therapist, Oxygen Therapist, Registered Respiratory Therapist*

### **29-1127 Speech-Language Pathologists**

Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems.

*Illustrative examples: Public School Speech Therapist, Speech Clinician, Speech Therapist*

### **29-1128 Exercise Physiologists**

Assess, plan, or implement fitness programs that include exercise or physical activities such as those designed to improve cardiorespiratory function, body composition, muscular strength, muscular endurance, or flexibility. Excludes “Physical Therapists” (29-1123), “Athletic Trainers” (29-9091), and “Fitness Trainers and Aerobic Instructors” (39-9031).

*Illustrative examples: Applied Exercise Physiologist, Clinical Exercise Physiologist, Kinesiotherapist*

### **29-1129 Therapists, All Other**

All therapists not listed separately. *Illustrative examples: Hydrotherapist, Music Therapist*

### **29-1155 Speech-Language Pathologists, Non R&D**

*Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use.*

### **29-1156 Speech-Language Pathologists, R&D**

*These persons spend the majority of their time researching speech and language problems.*

### **29-1131 Veterinarians**

Diagnose, treat, or research diseases and injuries of animals. Includes veterinarians who conduct research and development, inspect livestock, or care for pets and companion animals.

*Illustrative examples: Animal Surgeon, Doctor of Veterinary Medicine (DVM), Veterinary Medicine Scientist, Wildlife Veterinarian*

### **29-1141 Registered Nurses**

Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. Includes Clinical Nurse Specialists. Excludes “Nurse Anesthetists” (29-1151), “Nurse Midwives” (29-1161), and “Nurse Practitioners” (29-1171).

*Illustrative examples: Coronary Care Unit Nurse, Hospice Registered Nurse, Psychiatric Nurse*

### **29-1151 Nurse Anesthetists**

Administer anesthesia, monitor patient’s vital signs, and oversee patient recovery from anesthesia. May assist anesthesiologists, surgeons, other physicians, or dentists. Must be registered nurses who have specialized graduate education.

*Illustrative example: Certified Registered Nurse Anesthetist (CRNA)*

**29-1161 Nurse Midwives**

Diagnose and coordinate all aspects of the birthing process, either independently or as part of a healthcare team. May provide well-woman gynecological care. Must have specialized, graduate nursing education.

*Illustrative example: Certified Nurse Midwife (CNM)*

**29-1171 Nurse Practitioners**

Diagnose and treat acute, episodic, or chronic illness, independently or as part of a healthcare team. May focus on health promotion and disease prevention. May order, perform, or interpret diagnostic tests such as lab work and x rays. May prescribe medication. Must be registered nurses who have specialized graduate education.

*Illustrative examples: Cardiology Nurse Practitioner, Family Practice Nurse Practitioner, Gerontological Nurse Practitioner*

**29-1181 Audiologists**

Assess and treat persons with hearing and related disorders. May fit hearing aids and provide auditory training. May perform research related to hearing problems.

*Illustrative examples: Clinical Audiologist, Pediatric Audiologist*

**29-1199 Health Diagnosing and Treating Practitioners, All Other**

All health diagnosing and treating practitioners not listed separately.

*Illustrative examples: Acupuncturist, Hypnotherapist, Naturopathic Physician*

**29-2011 Medical and Clinical Laboratory Technologists**

Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.

*Illustrative examples: Blood Bank Laboratory Technologist, Cytogenetic Technologist, Immunohematologist*

**29-2012 Medical and Clinical Laboratory Technicians**

Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.

*Illustrative examples: Histology Technician, Pathology Technician, Serology Technician*

**29-2021 Dental Hygienists**

Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop x rays, or apply fluoride or sealants.

*Illustrative examples: Oral Hygienist, Registered Dental Hygienist*

**29-2031 Cardiovascular Technologists and Technicians**

Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary functions, lung capacity, and similar tests. Includes vascular technologists.

*Illustrative examples: Cardiac Catheterization Technologist, Echocardiographer, EKG Technician*

**29-2032 Diagnostic Medical Sonographers**

Produce ultrasonic recordings of internal organs for use by physicians.

*Illustrative examples: Registered Diagnostic Medical Sonographer, Ultrasound Technologist*

### **29-2033 Nuclear Medicine Technologists**

Prepare, administer, and measure radioactive isotopes in therapeutic, diagnostic, and tracer studies using a variety of radioisotope equipment. Prepare stock solutions of radioactive materials and calculate doses to be administered by radiologists. Subject patients to radiation. Execute blood volume, red cell survival, and fat absorption studies following standard laboratory techniques. *Illustrative examples: Certified Nuclear Medicine Technologist, Nuclear Cardiology Technologist, Radioisotope Technologist*

### **29-2034 Radiologic Technologists**

Take x rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Includes technologists who specialize in other scanning modalities. Excludes "Diagnostic Medical Sonographers"(29-2032) and "Magnetic Resonance Imaging Technologists" (29-2035).

*Illustrative examples: Computed Tomography (CT) Scanner Operator, X-Ray Technician*

### **29-2035 Magnetic Resonance Imaging Technologists**

Operate Magnetic Resonance Imaging (MRI) scanners. Monitor patient safety and comfort, and view images of area being scanned to ensure quality of pictures. May administer gadolinium contrast dosage intravenously. May interview patient, explain MRI procedures, and position patient on examining table. May enter into the computer data such as patient history, anatomical area to be scanned, orientation specified, and position of entry.

*Illustrative examples: Computed Tomography/Magnetic Resonance Imaging Technologist (CT/MRI) Technologist, MRI Technologist*

### **29-2041 Emergency Medical Technicians and Paramedics**

Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.

*Illustrative examples: EMT, Flight Paramedic*

### **29-2051 Dietetic Technicians**

Assist in the provision of food service and nutritional programs, under the supervision of a dietitian. May plan and produce meals based on established guidelines, teach principles of food and nutrition, or counsel individuals.

*Illustrative examples: Dietary Technician, Registered Diet Technician*

### **29-2052 Pharmacy Technicians**

Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications according to prescription orders.

*Illustrative examples: Certified Pharmacy Technician, Pharmacist Technician*

### **29-2053 Psychiatric Technicians**

Care for individuals with mental or emotional conditions or disabilities, following the instructions of physicians or other health practitioners. Monitor patients' physical and emotional well-being and report to medical staff. May participate in rehabilitation and treatment programs, help with personal hygiene, and administer oral or injectable medications.

*Illustrative examples: Behavioral Health Technician, Mental Health Technician*

**29-2054 Respiratory Therapy Technicians**

Provide respiratory care under the direction of respiratory therapists and physicians.

*Illustrative examples: Certified Respiratory Therapy Technician, Oxygen Therapy Technician*

**29-2055 Surgical Technologists**

Assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. May help set up operating room, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and other supplies to surgeons and surgeon's assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments.

*Illustrative examples: Certified Surgical Technologist, Operating Room (OR) Tech, Surgical Scrub Technologist*

**29-2056 Veterinary Technologists and Technicians**

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. May assist a veterinarian during surgery.

*Illustrative examples: Veterinary Laboratory Technician, Veterinary Surgery Technologist, Veterinary X-Ray Operator*

**29-2057 Ophthalmic Medical Technicians**

Assist ophthalmologists by performing ophthalmic clinical functions. May administer eye exams, administer eye medications, and instruct the patient in care and use of corrective lenses.

*Illustrative examples: Ocular Care Technologist, Ophthalmic Technologist*

**29-2061 Licensed Practical and Licensed Vocational Nurses**

Care for ill, injured, or convalescing patients or persons with disabilities in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.

*Illustrative examples: LVN, LPN, Pediatric Licensed Practical Nurse*

**29-2071 Medical Records and Health Information Technicians**

Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system. Process, maintain, compile, and report patient information for health requirements and standards in a manner consistent with the healthcare industry's numerical coding system. Excludes "File Clerks" (43-4071).

*Illustrative examples: Cancer Registrar, Health Information Coder, Health Information Systems Technician, Medical Records Specialist*

**29-2081 Opticians, Dispensing**

Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with inserting, removing, and caring for contact lenses. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription. Prepare work order for optical laboratory containing instructions for grinding and mounting lenses in frames. Verify exactness of finished lens spectacles. Adjust frame and lens position to fit client. May shape or reshape frames. Includes contact lens opticians.

*Illustrative examples: Contact Lens Fitter, Eyeglass Fitter*

**29-2091 Orthotists and Prosthetists**

Design, measure, fit, and adapt orthopedic braces, appliances or prostheses, such as limbs or facial parts for patients with disabling conditions.

*Illustrative examples: Artificial Limb Fitter, Certified Orthotic Fitter, Pedorthist*

**29-2092 Hearing Aid Specialists**

Select and fit hearing aids for customers. Administer and interpret tests of hearing. Assess hearing instrument efficacy. Take ear impressions and prepare, design, and modify ear molds. Excludes "Audiologists" (29-1181).

*Illustrative examples: Hearing Aid Fitter, Hearing Aid Technician, Hearing Instrument Specialist*

**29-2099 Health Technologists and Technicians, All Other**

All health technologists and technicians not listed separately.

*Illustrative examples: Dialysis Technician, Electroencephalogram (EEG) Technologist, Electroneurodiagnostic Technologist, Polysomnograph Tech*

**29-9011 Occupational Health and Safety Specialists**

Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector. Includes environmental protection officers.

*Illustrative examples: Environmental Health Sanitarian, Health and Safety Inspector, Industrial Hygienist*

**29-9012 Occupational Health and Safety Technicians**

Collect data on work environments for analysis by occupational health and safety specialists. Implement and conduct evaluation of programs designed to limit chemical, physical, biological, and ergonomic risks to workers.

*Illustrative examples: Construction Health and Safety Technician, Ergonomics Technician, Occupational Health and Safety Technologist (OHST)*

**29-9091 Athletic Trainers**

Evaluate and advise individuals to assist recovery from or avoid athletic-related injuries or illnesses, or maintain peak physical fitness. May provide first aid or emergency care.

*Illustrative example: Certified Athletic Trainer*

**29-9092 Genetic Counselors**

Assess individual or family risk for a variety of inherited conditions, such as genetic disorders and birth defects. Provide information to other healthcare providers or to individuals and families concerned with the risk of inherited conditions. Advise individuals and families to support informed decisionmaking and coping methods for those at risk. May help conduct research related to genetic conditions or genetic counseling.

*Illustrative examples: Chromosomal Disorders Counselor, Mitochondrial Disorders Counselor, Prenatal Genetic Counselor*

**29-9099 Healthcare Practitioners and Technical Workers, All Other**

All healthcare practitioners and technical workers not listed separately.

*Illustrative examples: Podiatric Technician, Traditional Chinese Herbalist*

**BLANK PAGE**

## **HEALTHCARE SUPPORT OCCUPATIONS**

### **31-1011 Home Health Aides**

Provide routine individualized healthcare such as changing bandages and dressing wounds, and applying topical medications to the elderly, convalescents, or persons with disabilities at the patient's home or in a care facility. Monitor or report changes in health status. May also provide personal care such as bathing, dressing, and grooming of patient.

*Illustrative examples: Home Health Attendant, Home Hospice Aide*

### **31-1013 Psychiatric Aides**

Assist mentally impaired or emotionally disturbed patients, working under direction of nursing and medical staff. May assist with daily living activities, lead patients in educational and recreational activities, or accompany patients to and from examinations and treatments. May restrain violent patients. Includes psychiatric orderlies.

*Illustrative examples: Mental Health Orderly, Psychiatric Nursing Aide, Psychiatric Technician Assistant*

### **31-1014 Nursing Assistants**

Provide basic patient care under direction of nursing staff. Perform duties such as feed, bathe, dress, groom, or move patients, or change linens. May transfer or transport patients. Includes nursing care attendants, nursing aides, and nursing attendants. Excludes "Home Health Aides" (31-1011), "Orderlies" (31-1015), "Personal Care Aides" (39-9021), and "Psychiatric Aides" (31-1013).

*Illustrative examples: Certified Nurse Aide, Certified Nursing Assistant, Nursing Care Attendant*

### **31-1015 Orderlies**

Transport patients to areas such as operating rooms or x-ray rooms using wheelchairs, stretchers, or moveable beds. May maintain stocks of supplies or clean and transport equipment. Psychiatric orderlies are included in "Psychiatric Aides" (31-1013). Excludes "Nursing Assistants" (31-1014).

*Illustrative examples: Hospital Orderly, Medical Orderly, Surgical Orderly*

### **31-2011 Occupational Therapy Assistants**

Assist occupational therapists in providing occupational therapy treatments and procedures. May, in accordance with State laws, assist in development of treatment plans, carry out routine functions, direct activity programs, and document the progress of treatments. Generally requires formal training.

*Illustrative examples: Certified Occupational Therapy Assistant, Licensed Occupational Therapist Assistant*

### **31-2012 Occupational Therapy Aides**

Under close supervision of an occupational therapist or occupational therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing patient and treatment room.

*Illustrative examples: Occupational Rehabilitation Aide, Occupational Therapist Aide*

### **31-2021 Physical Therapist Assistants**

Assist physical therapists in providing physical therapy treatments and procedures. May, in accordance with State laws, assist in the development of treatment plans, carry out routine functions, document the progress of treatment, and modify specific treatments in accordance with patient status and within the scope of treatment plans established by a physical therapist. Generally requires formal training.

*Illustrative examples: Licensed Physical Therapy Assistant, Physiotherapy Assistant*

### **31-2022 Physical Therapist Aides**

Under close supervision of a physical therapist or physical therapy assistant, perform only delegated, selected, or routine tasks in specific situations. These duties include preparing the patient and the treatment area.

*Illustrative examples: Clinical Rehabilitation Aide, Physical Therapy Aide*

### **31-9011 Massage Therapists**

Perform therapeutic massages of soft tissues and joints. May assist in the assessment of range of motion and muscle strength, or propose client therapy plans.

*Illustrative examples: Deep Tissue Massage Therapist, Licensed Massage Therapist, Swedish Masseur*

### **31-9091 Dental Assistants**

Assist dentist, set up equipment, prepare patient for treatment, and keep records.

*Illustrative examples: Certified Dental Assistant, Orthodontic Assistant*

### **31-9092 Medical Assistants**

Perform administrative and certain clinical duties under the direction of a physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding information for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by physician. Excludes "Physician Assistants" (29-1071).

*Illustrative examples: Chiropractic Assistant, Morgue Attendant, Orthopedic Cast Specialist*

### **31-9093 Medical Equipment Preparers**

Prepare, sterilize, install, or clean laboratory or healthcare equipment. May perform routine laboratory tasks and operate or inspect equipment.

*Illustrative examples: Central Sterile Supply Technician, Sterilization Specialist*

### **31-9094 Medical Transcriptionists**

Transcribe medical reports recorded by physicians and other healthcare practitioners using various electronic devices, covering office visits, emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries. Transcribe dictated reports and translate abbreviations into fully understandable form. Edit as necessary and return reports in either printed or electronic form for review and signature, or correction.

*Illustrative examples: Medical Stenographer, Medical Transcriber, Pathology Transcriptionist*

**31-9095 Pharmacy Aides**

Record drugs delivered to the pharmacy, store incoming merchandise, and inform the supervisor of stock needs. May operate cash register and accept prescriptions for filling.

*Illustrative examples: Pharmacist Assistant, Pharmacy Clerk, Prescription Clerk*

**31-9096 Veterinary Assistants and Laboratory Animal Caretakers**

Feed, water, and examine pets and other nonfarm animals for signs of illness, disease, or injury in laboratories and animal hospitals and clinics. Clean and disinfect cages and work areas, and sterilize laboratory and surgical equipment. May provide routine post-operative care, administer medication orally or topically, or prepare samples for laboratory examination under the supervision of veterinary or laboratory animal technologists or technicians, veterinarians, or scientists. Excludes "Nonfarm Animal Caretakers" (39-2021).

*Illustrative examples: Veterinary Attendant, Veterinarian Helper*

**31-9097 Phlebotomists**

Draw blood for tests, transfusions, donations, or research. May explain the procedure to patients and assist in the recovery of patients with adverse reactions.

*Illustrative examples: Phlebotomy Technician, Venipuncturist*

**31-9099 Healthcare Support Workers, All Other**

All healthcare support workers not listed separately.

*Illustrative example: Ortho/Prosthetic Aide*

**BLANK PAGE**

## **PROTECTIVE SERVICE OCCUPATIONS**

### **33-1011 First-Line Supervisors of Correctional Officers**

Directly supervise and coordinate activities of correctional officers and jailers.

*Illustrative examples: Corrections Sergeant, Prison Guard Supervisor*

### **33-1012 First-Line Supervisors of Police and Detectives**

Directly supervise and coordinate activities of members of police force.

*Illustrative examples: Commanding Officer Homicide Squad, Detective Lieutenant, Police Lieutenant, Traffic Sergeant*

### **33-1021 First-Line Supervisors of Fire Fighting and Prevention Workers**

Directly supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.

*Illustrative examples: Fire Lieutenant, Municipal Fire Fighting and Prevention Supervisor, Supervising Fire Marshal*

### **33-1099 First-Line Supervisors of Protective Service Workers, All Other**

All protective service supervisors not listed separately above.

*Illustrative examples: Animal Cruelty Investigation Supervisor, Security Guard Supervisor, Transportation Security Administration (TSA) Screener Supervisor*

### **33-2011 Firefighters**

Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster assistance.

*Illustrative examples: Fire Engine Pump Operator, Forest Firefighter, Marine Firefighter, Smoke Jumper*

### **33-2021 Fire Inspectors and Investigators**

Inspect buildings to detect fire hazards and enforce local ordinances and State laws, or investigate and gather facts to determine cause of fires and explosions.

*Illustrative examples: Arson Investigator, Certified Vehicle Fire Investigator, Fire Hazard Inspector, Fire Prevention Inspector*

### **33-2022 Forest Fire Inspectors and Prevention Specialists**

Enforce fire regulations, inspect forest for fire hazards and recommend forest fire prevention or control measures. May report forest fires and weather conditions.

*Illustrative examples: Environmental Protection Fire Control Officer, Forest Fire Control Officer, Wildfire Prevention Specialist*

### **33-3011 Bailiffs**

Maintain order in courts of law.

*Illustrative examples: Court Bailiff, Court Security Officer, Deputy Bailiff*

### **33-3012 Correctional Officers and Jailers**

Guard inmates in penal or rehabilitative institutions in accordance with established regulations and procedures. May guard prisoners in transit between jail, courtroom, prison, or other point. Includes deputy sheriffs and police who spend the majority of their time guarding prisoners in correctional institutions.

*Illustrative examples: Certified Detention Deputy, Juvenile Corrections Officer, Prison Guard*

### **33-3021 Detectives and Criminal Investigators**

Conduct investigations related to suspected violations of Federal, State, or local laws to prevent or solve crimes. Excludes "Private Detectives and Investigators" (33-9021).  
*Illustrative examples: Deputy United States Marshal, Homicide Detective, Narcotics Investigator*

### **33-3031 Fish and Game Wardens**

Patrol assigned area to prevent fish and game law violations. Investigate reports of damage to crops or property by wildlife. Compile biological data.  
*Illustrative examples: Conservation Enforcement Officer, Wildlife and Game Protector, Wildlife Officer*

### **33-3041 Parking Enforcement Workers**

Patrol assigned area, such as public parking lot or city streets to issue tickets to overtime parking violators and illegally parked vehicles.  
*Illustrative examples: Meter Maid, Parking Enforcement Officer*

### **33-3051 Police and Sheriff's Patrol Officers**

Maintain order and protect life and property by enforcing local, tribal, State, or Federal laws and ordinances. Perform a combination of the following duties: patrol a specific area; direct traffic; issue traffic summonses; investigate accidents; apprehend and arrest suspects, or serve legal processes of courts.  
*Illustrative examples: Border Patrol Officer, Motorcycle Police, Park Police, State Trooper*

### **33-3052 Transit and Railroad Police**

Protect and police railroad and transit property, employees, or passengers.  
*Illustrative examples: Railroad Detective, Track Patrol, Transit Authority Police*

### **33-9011 Animal Control Workers**

Handle animals for the purpose of investigations of mistreatment, or control of abandoned, dangerous, or unattended animals.  
*Illustrative examples: Animal Control Officer, Animal Warden, Dog Catcher, Humane Officer*

### **33-9021 Private Detectives and Investigators**

Gather, analyze, compile and report information regarding individuals or organizations to clients, or detect occurrences of unlawful acts or infractions of rules in private establishment.  
*Illustrative examples: Private Eye, Skip Tracer, Store Detective*

### **33-9031 Gaming Surveillance Officers and Gaming Investigators**

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 use 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 the business. Usually required to provide verbal and written reports of all violations and suspicious behavior to supervisor.  
*Illustrative examples: Casino Investigator, Casino Surveillance Officer, Gambling Monitor*

**33-9032 Security Guards**

Guard, patrol, or monitor premises to prevent theft, violence, or infractions of rules. May operate x-ray and metal detector equipment. Excludes "Transportation Security Screeners" (33-9093).

*Illustrative examples: Bank Guard, Bodyguard, Bouncer*

**33-9091 Crossing Guards**

Guide or control vehicular or pedestrian traffic at such places as streets, schools, railroad crossings, or construction sites.

*Illustrative examples: Construction Site Crossing Guard, School Traffic Guard*

**33-9092 Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers**

Monitor recreational areas, such as pools, beaches, or ski slopes to provide assistance and protection to participants.

*Illustrative examples: Beach Lifeguard, Outdoor Emergency Care Technician*

**33-9093 Transportation Security Screeners**

Conduct screening of passengers, baggage, or cargo to ensure compliance with Transportation Security Administration (TSA) regulations. May operate basic security equipment such as x-ray machines and hand wands at screening checkpoints.

*Illustrative examples: Airport Baggage Screener, Airport Security Screener, Transportation Security Officer, Transportation Security Administration (TSA) Screener*

**33-9099 Protective Service Workers, All Other**

All protective service workers not listed separately.

*Illustrative examples, Playground Monitor, Warrant Server*

**BLANK PAGE**

## **35-000 – FOOD PREPARATION & SERVING RELATED OCCUPATIONS**

### **35-1011 Chefs and Head Cooks**

Direct and may participate in the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts.

*Illustrative examples: Executive Chef, Pastry Chef, Sous Chef*

### **35-1012 First-Line Supervisors of Food Preparation and Serving Workers**

Directly supervise and coordinate activities of workers engaged in preparing and serving food.

*Illustrative examples: Banquet Supervisor, Bar Manager, Kitchen Supervisor*

### **35-2011 Cooks, Fast Food**

Prepare and cook food in a fast food restaurant with a limited menu. Duties of these cooks are limited to preparation of a few basic items and normally involve operating large-volume single-purpose cooking equipment.

*Illustrative example: Fast Food Fry Cook*

### **35-2012 Cooks, Institution and Cafeteria**

Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.

*Illustrative examples: Camp Cook, Galley Cook, Mess Cook, School Cook*

### **35-2013 Cooks, Private Household**

Prepare meals in private homes. Includes personal chefs.

*Illustrative examples: Certified Personal Chef, Private Chef*

### **35-2014 Cooks, Restaurant**

Prepare, season, and cook dishes such as soups, meats, vegetables, or desserts in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.

*Illustrative examples: Banquet Cook, Line Cook, Saucier*

### **35-2015 Cooks, Short Order**

Prepare and cook to order a variety of foods that require only a short preparation time. May take orders from customers and serve patrons at counters or tables. Excludes "Fast Food Cooks" (35-2011).

*Illustrative example: Griddle Cook*

### **35-2019 Cooks, All Other**

All cooks not listed separately.

*Illustrative examples: Falafal Cart Cook, Fraternity House Cook*

### **35-2021 Food Preparation Workers**

Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.

*Illustrative examples: Fruit and Vegetable Parer, Salad Maker, Sandwich Maker*

### **35-3011 Bartenders**

Mix and serve drinks to patrons, directly or through waitstaff.

*Illustrative examples: Barkeep, Mixologist, Taproom Attendant*

**35-3021 Combined Food Preparation and Serving Workers, Including Fast Food**  
Perform duties which combine preparing and serving food and nonalcoholic beverages.  
*Illustrative example: Mess Attendant*

**35-3022 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop**  
Serve food to diners at counter or from a steam table. Counter attendants who also wait tables are included in "Waiters and Waitresses" (35-3031).  
*Illustrative examples: Cafeteria Server, Ice Cream Server, Snack Bar Attendant*

**35-3031 Waiters and Waitresses**  
Take orders and serve food and beverages to patrons at tables in dining establishment. Excludes "Counter Attendants, Cafeteria, Food Concession, and Coffee Shop" (35-3022).  
*Illustrative examples: Cocktail Server, Dining Car Server, Wine Steward*

**35-3041 Food Servers, Nonrestaurant**  
Serve food to individuals outside of a restaurant environment, such as in hotel rooms, hospital rooms, residential care facilities, or cars. Excludes "Door-to-Door Sales Workers, News and Street Vendors, and Related Workers" (41-9091) and "Counter Attendants, Cafeteria, Food Concession, and Coffee Shop" (35-3022).  
*Illustrative examples: Boat Hop, Hospital Food Service Worker, Room Service Food Server*

**35-9011 Dining Room and Cafeteria Attendants and Bartender Helpers**  
Facilitate food service. Clean tables, remove dirty dishes, replace soiled table linens; set tables; replenish supply of clean linens, silverware, glassware, and dishes; supply service bar with food; and serve items such as water, condiments, and coffee to patrons.  
*Illustrative examples: Bar Back, Busser, Lunchroom Attendant*

**35-9021 Dishwashers**  
Clean dishes, kitchen, food preparation equipment, or utensils.  
*Illustrative examples: Dish Room Worker, Silverware Cleaner*

**35-9031 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop**  
Welcome patrons, seat them at tables or in lounge, and help ensure quality of facilities and service.  
*Illustrative examples: Dining Room Host, Maitre D'*

**35-9099 Food Preparation and Serving Related Workers, All Other**  
All food preparation and serving related workers not listed separately.  
*Illustrative example: Kitchen Steward*

## **37-000 – BUILDING & GROUNDS CLEANING & MAINTENANCE OCCUPATIONS**

### **37-1011 First-Line Supervisors of Housekeeping and Janitorial Workers**

Directly supervise and coordinate work activities of cleaning personnel in hotels, hospitals, offices, and other establishments.

*Illustrative examples: Building Cleaning Supervisor, Cleaning Staff Supervisor, Custodial Supervisor*

### **37-1012 First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers**

Directly supervise and coordinate activities of workers engaged in landscaping or groundskeeping activities. Work may involve reviewing contracts to ascertain service, machine, and workforce requirements; answering inquiries from potential customers regarding methods, material, and price ranges; and preparing estimates according to labor, material, and machine costs.

*Illustrative examples: Grounds Maintenance Supervisor, Head Greenskeeper, Horticultural Services Supervisor*

### **37-2011 Janitors and Cleaners, Except Maids and Housekeeping Cleaners**

Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as cleaning floors, shampooing rugs, washing walls and glass, and removing rubbish. Duties may include tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs, and cleaning snow or debris from sidewalk.

*Illustrative examples: Industrial Plant Custodian, School Custodian, Window Washer*

### **37-2012 Maids and Housekeeping Cleaners**

Perform any combination of light cleaning duties to maintain private households or commercial establishments, such as hotels and hospitals, in a clean and orderly manner. Duties may include making beds, replenishing linens, cleaning rooms and halls, and vacuuming.

*Illustrative examples: Chambermaid, House Cleaner, Housekeeping Staff*

### **37-2019 Building Cleaning Workers, All Other**

All building cleaning workers not listed separately.

*Illustrative examples: Building Pressure Washer, Chimney Sweeper*

### **37-2021 Pest Control Workers**

Apply or release chemical solutions or toxic gases and set traps to kill or remove pests and vermin that infest buildings and surrounding areas.

*Illustrative examples: Exterminator, Fumigator, Rodent Exterminator*

### **37-3011 Landscaping and Groundskeeping Workers**

Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, sprinkler installation, and installation of mortarless segmental concrete masonry wall units. Excludes "Farmworkers and Laborers, Crop, Nursery, and Greenhouse" (45-2092).

*Illustrative examples: Greenskeeper, Hedge Trimmer, Lawn Caretaker, Shrub Planter*

**37-3012 Pesticide Handlers, Sprayers, and Applicators, Vegetation**

Mix or apply pesticides, herbicides, fungicides, or insecticides through sprays, dusts, vapors, soil incorporation, or chemical application on trees, shrubs, lawns, or botanical crops. Usually requires specific training and State or Federal certification. Excludes "Commercial Pilots" (53-2012) who dust or spray crops from aircraft.

*Illustrative examples: Fruit Sprayer, Weed Sprayer*

**37-3013 Tree Trimmers and Pruners**

Using sophisticated climbing and rigging techniques, cut away dead or excess branches from trees or shrubs to maintain right-of-way for roads, sidewalks, or utilities, or to improve appearance, health, and value of tree. Prune or treat trees or shrubs using handsaws, hand pruners, clippers, and power pruners. Works off the ground in the tree canopy and may use truck-mounted lifts. Excludes workers who primarily perform duties of "Pesticide Handlers, Sprayers, and Applicators, Vegetation" (37-3012) and "Landscaping and Groundskeeping Workers" (37-3011).

*Illustrative examples: Tree Specialist, Tree Surgeon*

**37-3019 Grounds Maintenance Workers, All Other**

All grounds maintenance workers not listed separately.

*Illustrative example: Trailhead Maintenance Worker, Tree Trimmer Helper*

## **39-000 – PERSONAL CARE & SERVICE OCCUPATIONS**

### **39-1011 Gaming Supervisors**

Supervise and coordinate activities of workers in assigned gaming areas. Circulate among tables and observe operations. Ensure that stations and games are covered for each shift. May explain and interpret operating rules of house to patrons. May plan and organize activities and services for guests in hotels/casinos. May address service complaints. Excludes "Slot Supervisors" (39-1012).

*Illustrative examples: Cardroom Supervisor, Pit Boss, Table Games Supervisor*

### **39-1012 Slot Supervisors**

Supervise and coordinate activities of slot department workers to provide service to patrons. Handle and settle complaints of players. Verify and pay off jackpots. Reset slot machines after payoffs. Make repairs or adjustments to slot machines or recommend removal of slot machines for repair. Report hazards and enforce safety rules.

*Illustrative example: Casino Slot Supervisor, Electronic Gaming Device Supervisor, Slot Key Person*

### **39-1021 First-Line Supervisors of Personal Service Workers**

Directly supervise and coordinate activities of personal service workers, such as flight attendants, hairdressers, or caddies.

*Illustrative examples: Animal Trainer Supervisor, Caddy Master, Recreation Attendant Supervisor*

### **39-2011 Animal Trainers**

Train animals for riding, harness, security, performance, or obedience, or assisting persons with disabilities. Accustom animals to human voice and contact; and condition animals to respond to commands. Train animals according to prescribed standards for show or competition. May train animals to carry pack loads or work as part of pack team.

*Illustrative examples: Guide Dog Trainer, Horse Breaker, Marine Mammal Trainer*

### **39-2021 Nonfarm Animal Caretakers**

Feed, water, groom, bathe, exercise, or otherwise care for pets and other nonfarm animals, such as dogs, cats, ornamental fish or birds, zoo animals, and mice. Work in settings such as kennels, animal shelters, zoos, circuses, and aquariums. May keep records of feedings, treatments, and animals received or discharged. May clean, disinfect, and repair cages, pens, or fish tanks. Excludes "Veterinary Assistants and Laboratory Animal Caretakers" (31-9096).

*Illustrative examples: Animal Shelter Worker, Dog Groomer, Kennel Worker, Zookeeper*

### **39-3011 Gaming Dealers**

Operate table games. Stand or sit behind table and operate games of chance by dispensing the appropriate number of cards or blocks to players, or operating other gaming equipment. Distribute winnings or collect players' money or chips. May compare the house's hand against players' hands.

*Illustrative examples: Blackjack Dealer, Craps Dealer, Poker Dealer, Roulette Dealer*

### **39-3012 Gaming and Sports Book Writers and Runners**

Post information enabling patrons to wager on various races and sporting events. Assist in the operation of games such as keno and bingo. May operate random number generating equipment and announce the numbers for patrons. Receive, verify, and record patrons' wagers. Scan and process winning tickets presented by patrons and payout winnings for those wagers.

*Illustrative examples: Betting Clerk, Keno Runner, Race Book Writer*

### **39-3019 Gaming Service Workers, All Other**

All gaming service workers not listed separately.

*Illustrative examples: Pit Clerk, Proposition Player, Shill*

### **39-3021 Motion Picture Projectionists**

Set up and operate motion picture projection and related sound reproduction equipment.

*Illustrative examples: Film Projector Operator, Movie Projectionist*

### **39-3031 Ushers, Lobby Attendants, and Ticket Takers**

Assist patrons at entertainment events by performing duties, such as collecting admission tickets and passes from patrons, assisting in finding seats, searching for lost articles, and locating such facilities as rest rooms and telephones.

*Illustrative examples: Theater Usher, Ticket Collector*

### **39-3091 Amusement and Recreation Attendants**

Perform variety of attending duties at amusement or recreation facility. May schedule use of recreation facilities, maintain and provide equipment to participants of sporting events or recreational pursuits, or operate amusement concessions and rides.

*Illustrative examples: Arcade Attendant, Golf Caddy, Ski Lift Operator*

### **39-3092 Costume Attendants**

Select, fit, and take care of costumes for cast members, and aid entertainers. May assist with multiple costume changes during performances.

*Illustrative examples: Theatrical Wardrobe Dresser, Wardrobe Attendant*

### **39-3093 Locker Room, Coatroom, and Dressing Room Attendants**

Provide personal items to patrons or customers in locker rooms, dressing rooms, or coatrooms.

*Illustrative examples: Bathhouse Attendant, Coat Checker, Washroom Attendant*

### **39-3099 Entertainment Attendants and Related Workers, All Other**

All entertainment attendants and related workers not listed separately.

### **39-4011 Embalmers**

Prepare bodies for interment in conformity with legal requirements.

*Illustrative examples: Licensed Embalmer, Restorative Art Embalmer*

### **39-4021 Funeral Attendants**

Perform variety of tasks during funeral, such as placing casket in parlor or chapel prior to service; arranging floral offerings or lights around casket; directing or escorting mourners; closing casket; and issuing and storing funeral equipment.

*Illustrative examples: Funeral Home Assistant, Mortician Helper, Pallbearer*

### **39-4031 Morticians, Undertakers, and Funeral Directors**

Perform various tasks to arrange and direct funeral services, such as coordinating transportation of body to mortuary, interviewing family or other authorized person to arrange details, selecting pallbearers, aiding with the selection of officials for religious rites, and providing transportation for mourners. Excludes “Funeral Service Managers” (11-9061).

*Illustrative examples: Certified Mortician, Funeral Arranger*

### **39-5011 Barbers**

Provide barbering services, such as cutting, trimming, shampooing, and styling hair, trimming beards, or giving shaves.

*Illustrative examples: Barber Apprentice, Master Barber*

### **39-5012 Hairdressers, Hairstylists, and Cosmetologists**

Provide beauty services, such as shampooing, cutting, coloring, and styling hair, and massaging and treating scalp. May apply makeup, dress wigs, perform hair removal, and provide nail and skin care services. Excludes “Makeup Artists, Theatrical and Performance” (39-5091), “Manicurists and Pedicurists” (39-5092), and “Skincare Specialists” (39-5094). *Illustrative examples: Beautician, Wig Stylist*

### **39-5091 Makeup Artists, Theatrical and Performance**

Apply makeup to performers to reflect period, setting, and situation of their role.

*Illustrative example: Special Effects Makeup Artist*

### **39-5092 Manicurists and Pedicurists**

Clean and shape customers' fingernails and toenails. May polish or decorate nails.

*Illustrative examples: Fingernail Sculptor, Nail Technician*

### **39-5093 Shampooers**

Shampoo and rinse customers' hair.

*Illustrative examples: Scalp Treatment Specialist, Shampoo Assistant*

### **39-5094 Skincare Specialists**

Provide skincare treatments to face and body to enhance an individual's appearance. Includes electrologists and laser hair removal specialists.

*Illustrative examples: Facialist, Medical Esthetician*

### **39-6011 Baggage Porters and Bellhops**

Handle baggage for travelers at transportation terminals or for guests at hotels or similar establishments.

*Illustrative examples: Bellstaff, Hotel Baggage Handler, Skycap*

### **39-6012 Concierges**

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

*Illustrative examples: Activities Concierge, Hotel Concierge, Hotel Guest Service Agent*

### **39-7011 Tour Guides and Escorts**

Escort individuals or groups on sightseeing tours or through places of interest, such as industrial establishments, public buildings, and art galleries.

*Illustrative examples: Historical Site Guide, Museum Guide, Sightseeing Guide*

### **39-7012 Travel Guides**

Plan, organize, and conduct long distance travel, tours, and expeditions for individuals and groups.

*Illustrative examples: Cruise Director, River Expedition Guide*

### **39-9011 Childcare Workers**

Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play. Excludes "Preschool Teachers, Except Special Education" (25-2011) and "Teacher Assistants" (25-9041).

*Illustrative examples: Au Pair, Daycare Provider, Nanny*

### **39-9021 Personal Care Aides**

Assist the elderly, convalescents, or persons with disabilities with daily living activities at the person's home or in a care facility. Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals. May provide assistance at non-residential care facilities. May advise families, the elderly, convalescents, and persons with disabilities regarding such things as nutrition, cleanliness, and household activities.

*Illustrative examples: Blind Escort, Elderly Companion, Geriatric Personal Care Aide*

### **39-9031 Fitness Trainers and Aerobics Instructors**

Instruct or coach groups or individuals in exercise activities. Demonstrate techniques and form, observe participants, and explain to them corrective measures necessary to improve their skills. Excludes teachers classified in 25-0000 Education, Training, and Library Occupations. Excludes "Coaches and Scouts" (27-2022) and "Athletic Trainers" (29-9091).

*Illustrative examples: Personal Trainer, Yoga Instructor*

### **39-9032 Recreation Workers**

Conduct recreation activities with groups in public, private, or volunteer agencies or recreation facilities. Organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies, taking into account the needs and interests of individual members.

*Illustrative examples: Activities Aide, Camp Counselor, Playground Worker*

### **39-9041 Residential Advisors**

Coordinate activities in residential facilities in secondary and college dormitories, group homes, or similar establishments. Order supplies and determine need for maintenance, repairs, and furnishings. May maintain household records and assign rooms. May assist residents with problem solving or refer them to counseling resources.

*Illustrative examples: Dormitory Counselor, House Parent, Residence Life Coordinator*

### **39-9099 Personal Care and Service Workers, All Other**

All personal care and service workers not listed separately.

*Illustrative examples: Butler, House Sitter, Shoe Shiner, Valet*

## **41-000 – SALES AND RELATED OCCUPATIONS**

### **41-1011 First-Line Supervisors of Retail Sales Workers**

Directly supervise and coordinate activities of retail sales workers in an establishment or department. Duties may include management functions, such as purchasing, budgeting, accounting, and personnel work, in addition to supervisory duties.

*Illustrative examples: Cashier Supervisor, Delicatessen Department Manager*

### **41-1012 First-Line Supervisors of Non-Retail Sales Workers**

Directly supervise and coordinate activities of sales workers other than retail sales workers. May perform duties such as budgeting, accounting, and personnel work, in addition to supervisory duties.

*Illustrative examples: Insurance Sales Supervisor, Real Estate Sales Supervisor, Telemarketer Supervisor*

### **41-2011 Cashiers**

Receive and disburse money in establishments other than financial institutions. May use electronic scanners, cash registers, or related equipment. May process credit or debit card transactions and validate checks. Excludes "Gaming Cage Persons and Booth Cashiers" (41-2012).

*Illustrative examples: Cash Register Operator, Grocery Checker, Toll Collector*

### **41-2012 Gaming Change Persons and Booth Cashiers**

Exchange coins, tokens, and chips for patrons' money. May issue payoffs and obtain customer's signature on receipt. May operate a booth in the slot machine area and furnish change persons with money bank at the start of the shift, or count and audit money in drawers. Excludes "Cashiers" (41-2011).

*Illustrative example: Mutuel Teller, Slot Attendant*

### **41-2021 Counter and Rental Clerks**

Receive orders, generally in person, for repairs, rentals, and services. May describe available options, compute costs, and accept payment. Excludes "Counter Attendants, Cafeteria, Food Concession, and Coffee Shop" (35-3022), "Hotel, Motel, and Resort Desk Clerks" (43-4081), "Order Clerks" (43-4151), and "Reservation and Transportation Ticket Agents and Travel Clerks" (43-4181).

*Illustrative examples: Car Rental Agent, Dry Cleaning Counter Clerk*

### **41-2022 Parts Salespersons**

Sell spare and replacement parts and equipment in repair shop or parts store.

*Illustrative examples: Auto Parts Salesperson, Electronic Parts Salesperson*

### **41-2031 Retail Salespersons**

Sell merchandise, such as furniture, motor vehicles, appliances, or apparel to consumers. Excludes "Cashiers" (41-2011).

*Illustrative examples: Used Car Salesperson, Women's Apparel Salesperson*

### **41-3011 Advertising Sales Agents**

Sell or solicit advertising space, time, or media in publications, signage, TV, radio, or the Internet. Includes individuals who obtain leases for outdoor advertising sites or persuade retailers to use sales promotion display items.

*Illustrative examples: Advertising Account Executive, Display Advertising Sales Representative, Yellow Pages Space Salesperson*

#### **41-3021 Insurance Sales Agents**

Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as an independent broker, or be employed by an insurance company.

*Illustrative examples: Life Insurance Salesperson, Pension Agent*

#### **41-3031 Securities, Commodities, and Financial Services Sales Agents**

Buy and sell securities or commodities in investment and trading firms, or provide financial services to businesses and individuals. May advise customers about stocks, bonds, mutual funds, commodities, and market conditions.

*Illustrative examples: Investment Banker, Securities Trader, Stock Broker*

#### **41-3041 Travel Agents**

Plan and sell transportation and accommodations for travel agency customers. Determine destination, modes of transportation, travel dates, costs, and accommodations required. May also describe, plan, and arrange itineraries and sell tour packages. May assist in resolving clients' travel problems.

*Illustrative examples: Corporate Travel Expert, Travel Service Consultant*

#### **41-3099 Sales Representatives, Services, All Other**

All services sales representatives not listed separately.

*Illustrative examples: Business Services Sales Representative, Membership Solicitor, Pest Control Service Sales Agent*

#### **41-4011 Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products**

Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education. Excludes "Sales Engineers" (41-9031).

*Illustrative examples: Pharmaceutical Sales Representative, Surgical Instruments Sales Representative, Wholesale Ultrasonic Equipment Salesperson*

#### **41-4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products**

Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.

*Illustrative examples: Hotel Supplies Salesperson, Pulpwood Dealer, Wholesale Diamond Broker*

#### **41-9011 Demonstrators and Product Promoters**

Demonstrate merchandise and answer questions for the purpose of creating public interest in buying the product. May sell demonstrated merchandise.

*Illustrative examples: Home Demonstrator, In-Store Demonstrator*

#### **41-9012 Models**

Model garments or other apparel and accessories for prospective buyers at fashion shows, private showings, or retail establishments. May pose for photos to be used in magazines or advertisements. May pose as subject for paintings, sculptures, and other types of artistic expression.

*Illustrative examples: Fashion Model, Hand Model, Photographer's Model*

**41-9021 Real Estate Brokers**

Operate real estate office, or work for commercial real estate firm, overseeing real estate transactions. Other duties usually include selling real estate or renting properties and arranging loans.

*Illustrative example: Licensed Real Estate Broker*

**41-9022 Real Estate Sales Agents**

Rent, buy, or sell property for clients. Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts. Includes agents who represent buyer.

*Illustrative examples: Apartment Rental Agent, Right of Way Agent*

**41-9031 Sales Engineers**

Sell business goods or services, the selling of which requires a technical background equivalent to a baccalaureate degree in engineering. Excludes "Engineers" (17-2011 through 17-2199) whose primary function is not marketing or sales.

*Illustrative examples: Aerospace Products Sales Engineer, Missile Navigation Systems Sales Engineer, Nuclear Equipment Sales Engineer*

**41-9041 Telemarketers**

Solicit donations or orders for goods or services over the telephone.

*Illustrative examples: Telemarketing Sales Representative, Telephone Solicitor*

**41-9091 Door-to-Door Sales Workers, News and Street Vendors, and Related Workers**

Sell goods or services door-to-door or on the street.

*Illustrative examples: Newspaper Carrier, Peddler, Souvenir Street Vendor*

**41-9099 Sales and Related Workers, All Other**

All sales and related workers not listed separately.

*Illustrative examples: Auctioneer, Blood Donor Recruiter, Personal Shopper, Store Gift Wrap Associate*

**BLANK PAGE**

## **43-000 – OFFICE & ADMINISTRATIVE SUPPORT OCCUPATIONS**

### **43-1011 First-Line Supervisors of Office and Administrative Support Workers**

Directly supervise and coordinate the activities of clerical and administrative support workers.

*Illustrative examples: Clerical Supervisor, Payroll Supervisor, Teller Supervisor*

### **43-2011 Switchboard Operators, Including Answering Service**

Operate telephone business systems equipment or switchboards to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages.

*Illustrative examples: Private Branch Exchange Operator, Telephone Answering Service Operator, Telephone Switchboard Operator*

### **43-2021 Telephone Operators**

Provide information by accessing alphabetical, geographical, or other directories. Assist customers with special billing requests, such as charges to a third party and credits or refunds for incorrectly dialed numbers or bad connections. May handle emergency calls and assist children or people with physical disabilities to make telephone calls.

*Illustrative examples: Directory Assistance Operator, Long Distance Operator, Information Operator*

### **43-2099 Communications Equipment Operators, All Other**

All communications equipment operators not listed separately.

*Illustrative example: Fax Machine Operator*

### **43-3011 Bill and Account Collectors**

Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. Duties include receiving payment and posting amount to customer's account; preparing statements to credit department if customer fails to respond; initiating repossession proceedings or service disconnection; and keeping records of collection and status of accounts.

*Illustrative examples: Collection Agent, Debt Collector, Repossessor*

### **43-3021 Billing and Posting Clerks**

Compile, compute, and record billing, accounting, statistical, and other numerical data for billing purposes. Prepare billing invoices for services rendered or for delivery or shipment of goods.

*Illustrative examples: Invoice Control Clerk, Patient Account Representative, Statement Processor*

### **43-3031 Bookkeeping, Accounting, and Auditing Clerks**

Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers. Excludes "Payroll and Timekeeping Clerks" (43-3051).

*Illustrative examples: Accounts Receivable Clerk, Bookkeeper, Mortgage Accounting Clerk*

### **43-3041 Gaming Cage Workers**

In a gaming establishment, conduct financial transactions for patrons. May reconcile daily summaries of transactions to balance books. May accept patron's credit application and verify credit references to provide check-cashing authorization or to establish house credit accounts. May sell gambling chips, tokens, or tickets to patrons, or to other workers for resale to patrons. May convert gaming chips, tokens, or tickets to currency upon patron's request. May use a cash register or computer to record transaction.

*Illustrative examples: Cage Cashier, Casino Cashier*

### **43-3051 Payroll and Timekeeping Clerks**

Compile and record employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions, or prepare paychecks. Excludes "Bookkeeping, Accounting, and Auditing Clerks" (43-3031).

*Illustrative example: Time and Attendance Clerk, Timekeeper*

### **43-3061 Procurement Clerks**

Compile information and records to draw up purchase orders for procurement of materials and services.

*Illustrative examples: Procurement Assistant, Purchasing Clerk*

### **43-3071 Tellers**

Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institution's various transactions.

*Illustrative examples: Foreign Exchange Clerk, Money Order Clerk, Securities Teller*

### **43-3099 Financial Clerks, All Other**

All financial clerks not listed separately.

*Illustrative examples: Bank Vault Attendant, Financial Reserve Clerk, Safety Deposit Clerk*

### **43-4011 Brokerage Clerks**

Perform duties related to the purchase, sale or holding of securities. Duties include writing orders for stock purchases or sales, computing transfer taxes, verifying stock transactions, accepting and delivering securities, tracking stock price fluctuations, computing equity, distributing dividends, and keeping records of daily transactions and holdings.

*Illustrative examples: Commodities Clerk, Dividend Clerk*

### **43-4021 Correspondence Clerks**

Compose letters or electronic correspondence in reply to requests for merchandise, damage claims, credit and other information, delinquent accounts, incorrect billings, or unsatisfactory services. Duties may include gathering data to formulate reply and preparing correspondence.

*Illustrative examples: Fan Mail Editor, Medicare Correspondence Representative*

#### **43-4031 Court, Municipal, and License Clerks**

Perform clerical duties for courts of law, municipalities, or governmental licensing agencies and bureaus. May prepare docket of cases to be called; secure information for judges and court; prepare draft agendas or bylaws for town or city council; answer official correspondence; keep fiscal records and accounts; issue licenses or permits; and record data, administer tests, or collect fees. Clerks of Court are classified in "Managers, All Other" (11-9199).

*Illustrative examples: Circuit Court Clerk, Motor Vehicle License Clerk, Warrant Clerk*

#### **43-4041 Credit Authorizers, Checkers, and Clerks**

Authorize credit charges against customers' accounts. Investigate history and credit standing of individuals or business establishments applying for credit. May interview applicants to obtain personal and financial data; determine credit worthiness; process applications; and notify customers of acceptance or rejection of credit.

*Illustrative examples: Charge Authorizer, Commercial Credit Reviewer, Credit Rating Checker*

#### **43-4051 Customer Service Representatives**

Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints. Excludes individuals whose duties are primarily installation, sales, or repair.

*Illustrative examples: Customer Complaint Clerk, Passenger Relations Representative, Warranty Clerk*

#### **43-4061 Eligibility Interviewers, Government Programs**

Determine eligibility of persons applying to receive assistance from government programs and agency resources, such as welfare, unemployment benefits, social security, and public housing.

*Illustrative examples: Medical Interviewer, Public Housing Interviewer, Unemployment Benefits Claims Taker*

#### **43-4071 File Clerks**

File correspondence, cards, invoices, receipts, and other records in alphabetical or numerical order or according to the filing system used. Locate and remove material from file when requested.

*Illustrative examples: Document Clerk, Records Clerk*

#### **43-4081 Hotel, Motel, and Resort Desk Clerks**

Accommodate hotel, motel, and resort patrons by registering and assigning rooms to guests, issuing room keys or cards, transmitting and receiving messages, keeping records of occupied rooms and guests' accounts, making and confirming reservations, and presenting statements to and collecting payments from departing guests.

*Illustrative examples: Hotel Front Desk Clerk, Hotel Registration Clerk*

#### **43-4111 Interviewers, Except Eligibility and Loan**

Interview persons by telephone, mail, in person, or by other means for the purpose of completing forms, applications, or questionnaires. Ask specific questions, record answers, and assist persons with completing form. May sort, classify, and file forms.

*Illustrative examples: Census Taker, Market Research Interviewer, Outpatient Interviewing Clerk*

#### **43-4121 Library Assistants, Clerical**

Compile records, sort, shelve, issue, and receive library materials such as books, electronic media, pictures, cards, slides and microfilm. Locate library materials for loan and replace material in shelving area, stacks, or files according to identification number and title. Register patrons to permit them to borrow books, periodicals, and other library materials. Excludes "Library Technicians" (25-4031).

*Illustrative examples: Braille and Talking Books Clerk, Circulation Clerk, Microfilm Clerk*

#### **43-4131 Loan Interviewers and Clerks**

Interview loan applicants to elicit information; investigate applicants' backgrounds and verify references; prepare loan request papers; and forward findings, reports, and documents to appraisal department. Review loan papers to ensure completeness, and complete transactions between loan establishment, borrowers, and sellers upon approval of loan.

*Illustrative examples: Loan Processor, Mortgage Loan Closer*

#### **43-4141 New Accounts Clerks**

Interview persons desiring to open accounts in financial institutions. Explain account services available to prospective customers and assist them in preparing applications.

*Illustrative examples: Banking Services Clerk, New Accounts Banking Representative*

#### **43-4151 Order Clerks**

Receive and process incoming orders for materials, merchandise, classified ads, or services such as repairs, installations, or rental of facilities. Generally receives orders via mail, phone, fax, or other electronic means. Duties include informing customers of receipt, prices, shipping dates, and delays; preparing contracts; and handling complaints. Excludes "Dispatchers, Except Police, Fire, and Ambulance" (43-5032) who both dispatch and take orders for services.

*Illustrative examples: Catalogue Clerk, Classified Ad Clerk, Subscription Clerk*

#### **43-4161 Human Resources Assistants, Except Payroll and Timekeeping**

Compile and keep personnel records. Record data for each employee, such as address, weekly earnings, absences, amount of sales or production, supervisory reports, and date of and reason for termination. May prepare reports for employment records, file employment records, or search employee files and furnish information to authorized persons.

*Illustrative examples: HR Clerk, Personnel Clerk*

#### **43-4171 Receptionists and Information Clerks**

Answer inquiries and provide information to the general public, customers, visitors, and other interested parties regarding activities conducted at establishment and location of departments, offices, and employees within the organization. Excludes "Switchboard Operators, Including Answering Service" (43-2011).

*Illustrative examples: Appointment Clerk, Front Desk Receptionist, Land Leasing Information Clerk*

### **43-4181 Reservation and Transportation Ticket Agents and Travel Clerks**

Make and confirm reservations for transportation or lodging, or sell transportation tickets. May check baggage and direct passengers to designated concourse, pier, or track; deliver tickets, contact individuals and groups to inform them of package tours; or provide tourists with travel or transportation information. Excludes "Travel Agents" (41-3041), "Hotel, Motel, and Resort Desk Clerks" (43-4081), and "Cashiers" (41-2011) who sell tickets for local transportation. *Illustrative examples: Airline Ticket Agent, Gate Agent, Hotel Reservationist, Train Reservation Clerk*

### **43-4199 Information and Record Clerks, All Other**

All information and record clerks not listed separately.

*Illustrative examples: Election Clerk, Probate Clerk, Student Admissions Clerk*

### **43-5011 Cargo and Freight Agents**

Expedite and route movement of incoming and outgoing cargo and freight shipments in airline, train, and trucking terminals, and shipping docks. Take orders from customers and arrange pickup of freight and cargo for delivery to loading platform. Prepare and examine bills of lading to determine shipping charges and tariffs.

*Illustrative examples: Cargo Router, Freight Shipping Agent, Ramp Service Agent*

### **43-5021 Couriers and Messengers**

Pick up and deliver messages, documents, packages, and other items between offices or departments within an establishment or directly to other business concerns, traveling by foot, bicycle, motorcycle, automobile, or public conveyance. Excludes "Light Truck or Delivery Services Drivers" (53-3033).

*Illustrative examples: Bicycle Messenger, Laboratory Courier, Office Runner*

### **43-5031 Police, Fire, and Ambulance Dispatchers**

Operate radio, telephone, or computer equipment at emergency response centers. Receive reports from the public of crimes, disturbances, fires, and medical or police emergencies. Relay information to law enforcement and emergency response personnel. May maintain contact with caller until responders arrive.

*Illustrative examples: Emergency Operator, 911 Operator, Police Radio Dispatcher*

### **43-5032 Dispatchers, Except Police, Fire, and Ambulance**

Schedule and dispatch workers, work crews, equipment, or service vehicles for conveyance of materials, freight, or passengers, or for normal installation, service, or emergency repairs rendered outside the place of business. Duties may include using radio, telephone, or computer to transmit assignments and compiling statistics and reports on work progress.

*Illustrative examples: Taxicab Dispatcher, Tow Truck Dispatcher, Train Dispatcher*

### **43-5041 Meter Readers, Utilities**

Read meter and record consumption of electricity, gas, water, or steam.

*Illustrative examples: Electric Meter Reader, Gas Meter Reader, Water Meter Reader*

### **43-5051 Postal Service Clerks**

Perform any combination of tasks in a post office, such as receive letters and parcels; sell postage and revenue stamps, postal cards, and stamped envelopes; fill out and sell money orders; place mail in pigeon holes of mail rack or in bags; and examine mail for correct postage.

*Illustrative examples: Bulk Mail Carrier, Parcel Post Clerk, Postal Service Window Clerk*

### **43-5052 Postal Service Mail Carriers**

Sort mail for delivery. Deliver mail on established route by vehicle or on foot.

*Illustrative examples: Letter Carrier, Mail Deliverer, Rural Route Carrier*

### **43-5053 Postal Service Mail Sorters, Processors, and Processing Machine Operators**

Prepare incoming and outgoing mail for distribution. Examine, sort, and route mail. Load, operate, and occasionally adjust and repair mail processing, sorting, and canceling machinery. Keep records of shipments, pouches, and sacks; and other duties related to mail handling within the postal service. Excludes "Postal Service Clerks" (43-5051) and "Postal Service Mail Carriers" (43-5052).

*Illustrative examples: Flat Sorting Machine Clerk, Mail Forwarding System Markup Clerk*

### **43-5061 Production, Planning, and Expediting Clerks**

Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule. Duties include reviewing and distributing production, work, and shipment schedules; conferring with department supervisors to determine progress of work and completion dates; and compiling reports on progress of work, inventory levels, costs, and production problems. Excludes "Weighers, Measurers, Checkers, and Samplers, Recordkeeping" (43-5111).

*Illustrative examples: Expeditor, Material Control Clerk, Production Scheduler*

### **43-5071 Shipping, Receiving, and Traffic Clerks**

Verify and maintain records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying and recording incoming merchandise or material; and arranging for the transportation of products. Excludes "Stock Clerks and Order Fillers" (43-5081) and "Weighers, Measurers, Checkers, and Samplers, Recordkeeping" (43-5111).

*Illustrative examples: Incoming Freight Clerk, Route Delivery Clerk, Store Receiving Clerk*

### **43-5081 Stock Clerks and Order Fillers**

Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May mark prices on merchandise and set up sales displays. Excludes "Laborers and Freight, Stock, and Material Movers, Hand" (53-7062), and "Shipping, Receiving, and Traffic Clerks" (43-5071).

*Illustrative examples: Inventory Control Clerk, Tool Crib Attendant, Warehouse Clerk*

### **43-5111 Weighers, Measurers, Checkers, and Samplers, Recordkeeping**

Weigh, measure, and check materials, supplies, and equipment for the purpose of keeping relevant records. Duties are primarily clerical by nature. Includes workers who collect and keep record of samples of products or materials. Excludes "Inspectors, Testers, Sorters, Samplers, and Weighers" (51-9061).

*Illustrative examples: Cheese Weigher, Scale Attendant, Weighing Station Operator*

### **43-6011 Executive Secretaries and Executive Administrative Assistants**

Provide high-level administrative support by conducting research, preparing statistical reports, handling information requests, and performing clerical functions such as preparing correspondence, receiving visitors, arranging conference calls, and scheduling meetings. May also train and supervise lower-level clerical staff. Excludes "Secretaries" (43-6012 through 43-6014).

*Illustrative example: Executive Assistant*

### **43-6012 Legal Secretaries**

Perform secretarial duties using legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research.

*Illustrative examples: Law Secretary, Legal Administrative Assistant*

### **43-6013 Medical Secretaries**

Perform secretarial duties using specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties may include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.

*Illustrative examples: Dental Secretary, Psychiatric Secretary*

### **43-6014 Secretaries and Administrative Assistants, Except Legal, Medical, and Executive**

Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers. Excludes legal, medical, and executive secretaries (43-6011 through 43-6013).

*Illustrative examples: Office Secretary, Personal Secretary, School Secretary*

### **43-9011 Computer Operators**

Monitor and control electronic computer and peripheral electronic data processing equipment to process business, scientific, engineering, and other data according to operating instructions. Monitor and respond to operating and error messages. May enter commands at a computer terminal and set controls on computer and peripheral devices. Excludes "Computer Occupations" (15-1100) and "Data Entry Keyers" (43-9021).

*Illustrative examples: Computer Peripheral Equipment Operator, Console Operator*

### **43-9021 Data Entry Keyers**

Operate data entry device, such as keyboard or photo composing perforator. Duties may include verifying data and preparing materials for printing. Excludes "Word Processors and Typists" (43-9022).

*Illustrative examples: Data Input Clerk, Data Typist*

### **43-9022 Word Processors and Typists**

Use word processor, computer or typewriter to type letters, reports, forms, or other material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Excludes "Data Entry Keyers" (43-9021), "Secretaries and Administrative Assistants" (43-6011 through 43-6014), "Court Reporters" (23-2091), and "Medical Transcriptionists" (31-9094).

*Illustrative examples: Clerk Typist, Transcription Typist*

**43-9031 Desktop Publishers**

Format typescript and graphic elements using computer software to produce publication-ready material.

*Illustrative examples: Desktop Publishing Specialist, Electronic Publisher*

**43-9041 Insurance Claims and Policy Processing Clerks**

Process new insurance policies, modifications to existing policies, and claims forms. Obtain information from policyholders to verify the accuracy and completeness of information on claims forms, applications and related documents, and company records. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives. Excludes "Claims Adjusters, Examiners, and Investigators" (13-1031).

*Illustrative examples: Insurance Policy Issue Clerk, Underwriting Clerk*

**43-9051 Mail Clerks and Mail Machine Operators, Except Postal Service**

Prepare incoming and outgoing mail for distribution. Use hand or mail handling machines to time stamp, open, read, sort, and route incoming mail; and address, seal, stamp, fold, stuff, and affix postage to outgoing mail or packages. Duties may also include keeping necessary records and completed forms.

*Illustrative examples: Direct Mail Clerk, Mailroom Clerk, Packaging Clerk*

**43-9061 Office Clerks, General**

Perform duties too varied and diverse to be classified in any specific office clerical occupation, requiring knowledge of office systems and procedures. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of answering telephones, bookkeeping, typing or word processing, stenography, office machine operation, and filing.

*Illustrative examples: Administrative Clerk, Office Assistant, Real Estate Clerk*

**43-9071 Office Machine Operators, Except Computer**

Operate one or more of a variety of office machines, such as photocopying, photographic, and duplicating machines, or other office machines. Excludes "Computer Operators" (43-9011), "Mail Clerks and Mail Machine Operators, Except Postal Service" (43-9051) and "Billing and Posting Clerks" (43-3021).

*Illustrative examples: Coin Wrapping Machine Operator, Copy Machine Operator*

**43-9081 Proofreaders and Copy Markers**

Read transcript or proof type setup to detect and mark for correction any grammatical, typographical, or compositional errors. Excludes workers whose primary duty is editing copy. Includes proofreaders of Braille.

*Illustrative examples: Braille Proofreader, Copy Reader, Editorial Assistant*

**43-9111 Statistical Assistants**

Compile and compute data according to statistical formulas for use in statistical studies. May perform actuarial computations and compile charts and graphs for use by actuaries. Includes actuarial clerks.

*Illustrative examples: Actuarial Assistant, Statistical Clerk*

**43-9199 Office and Administrative Support Workers, All Other**

All office and administrative support workers not listed separately.

*Illustrative examples: Envelope Stuffer, Fingerprint Clerk, Notary Public*

## **45-000 – FARMING, FISHING & FORESTRY OCCUPATIONS**

### **45-1011 First-Line Supervisors of Farming, Fishing, and Forestry Workers**

Directly supervise and coordinate the activities of agricultural, forestry, aquacultural, and related workers. Excludes "First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers" (37-1012).

*Illustrative examples: Corral Boss, Cranberry Bog Supervisor, Fish Hatchery Supervisor*

### **45-2011 Agricultural Inspectors**

Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety.

*Illustrative examples: Cattle Examiner, Grain Sampler, Milk Tester*

### **45-2021 Animal Breeders**

Select and breed animals according to their genealogy, characteristics, and offspring. May require knowledge of artificial insemination techniques and equipment use. May involve keeping records on heats, birth intervals, or pedigree. Excludes "Nonfarm Animal Caretakers" (39-2021) who may occasionally breed animals as part of their other caretaking duties. Excludes "Animal Scientists" (19-1011) whose primary function is research.

*Illustrative examples: Dairy Husbandry Worker, Horse Breeder*

### **45-2041 Graders and Sorters, Agricultural Products**

Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition. Excludes "Agricultural Inspectors" (45-2011).

*Illustrative examples: Cotton Grader, Egg Grader, Fruit Sorter, Meat Grader*

### **45-2091 Agricultural Equipment Operators**

Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking. May operate stationary equipment to perform post-harvest tasks, such as husking, shelling, threshing, and ginning.

*Illustrative examples: Combine Operator, Hay Baler, Tractor Operator*

### **45-2092 Farmworkers and Laborers, Crop, Nursery, and Greenhouse**

Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; or cleaning, grading, sorting, packing, and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities. Excludes "Graders and Sorters, Agricultural Products" (45-2041) and "Forest, Conservation, and Logging Workers" (45-4011 through 45-4029).

*Illustrative examples: Greenhouse Transplanter, Pecan Gatherer, Pepper Picker*

#### **45-2093 Farmworkers, Farm, Ranch, and Aquacultural Animals**

Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey. Duties may include feeding, watering, herding, grazing, castrating, branding, de-beaking, weighing, catching, and loading animals. May maintain records on animals; examine animals to detect diseases and injuries; assist in birth deliveries; and administer medications, vaccinations, or insecticides as appropriate. May clean and maintain animal housing areas. Includes workers who shear wool from sheep, and collect eggs in hatcheries.

*Illustrative examples: Cattle Brander, Sheep Shearer, Shrimp Pond Laborer*

#### **45-2099 Agricultural Workers, All Other**

All agricultural workers not listed separately.

*Illustrative examples: Crop Scout, Irrigation Worker*

#### **45-3011 Fishers and Related Fishing Workers**

Use nets, fishing rods, traps, or other equipment to catch and gather fish or other aquatic animals from rivers, lakes, or oceans, for human consumption or other uses. May haul game onto ship. Aquacultural laborers who work on fish farms are included in "Farmworkers, Farm, Ranch, and Aquacultural Animals" (45-2093).

*Illustrative examples: Seaweed Harvester, Wild Oyster Harvester*

#### **45-3021 Hunters and Trappers**

Hunt and trap wild animals for human consumption, fur, feed, bait, or other purposes.

*Illustrative examples: Bird Trapper, Deer Hunter, Predatory Animal Trapper*

#### **45-4011 Forest and Conservation Workers**

Under supervision, perform manual labor necessary to develop, maintain, or protect areas such as forests, forested areas, woodlands, wetlands, and rangelands through such activities as raising and transporting seedlings; combating insects, pests, and diseases harmful to plant life; and building structures to control water, erosion, and leaching of soil. Includes forester aides, seedling pullers, and tree planters.

*Illustrative examples: Forestry Laborer, Rangelands Conservation Laborer, Reforestation Worker, Wetlands Conservation Laborer*

#### **45-4021 Fallers**

Use axes or chainsaws to fell trees using knowledge of tree characteristics and cutting techniques to control direction of fall and minimize tree damage.

*Illustrative examples: Lumberjack, Pulpwood Cutter, Timber Cutter*

#### **45-4022 Logging Equipment Operators**

Drive logging tractor or wheeled vehicle equipped with one or more accessories such as bulldozer blade, frontal shear, grapple, logging arch, cable winches, hoisting rack, or crane boom, to fell tree; to skid, load, unload, or stack logs; or to pull stumps or clear brush. Logging truck drivers are included in "Heavy and Tractor-Trailer Truck Drivers" (53-3032).

*Illustrative examples: Grapple Skidder Operator, Log Hauler, Logging Tractor Operator, Lumber Stacker Operator*

**45-4023 Log Graders and Scalers**

Grade logs or estimate the marketable content or value of logs or pulpwood in sorting yards, millpond, log deck, or similar locations. Inspect logs for defects or measure logs to determine volume. Excludes "Buyers and Purchasing Agents, Farm Products" (13-1021).

*Illustrative examples: Log Check Scaler, Timber Estimator, Veneer Grader*

**45-4029 Logging Workers, All Other**

All logging workers not listed separately.

*Illustrative examples: Log Roper, Rigging Slinger, Timber Hand*

**BLANK PAGE**

## **47-000 – CONSTRUCTION & EXTRACTION OCCUPATIONS**

### **47-1011 First-Line Supervisors of Construction Trades and Extraction Workers**

Directly supervise and coordinate activities of construction or extraction workers.

*Illustrative examples: Carpenter Supervisor, Quarry Boss, Rig Supervisor, Solar Panel Installation Supervisor*

### **47-2011 Boilermakers**

Construct, assemble, maintain, and repair stationary steam boilers and boiler house auxiliaries. Align structures or plate sections to assemble boiler frame tanks or vats, following blueprints. Work involves use of hand and power tools, plumb bobs, levels, wedges, dogs, or turnbuckles. Assist in testing assembled vessels. Direct cleaning of boilers and boiler furnaces. Inspect and repair boiler fittings, such as safety valves, regulators, automatic-control mechanisms, water columns, and auxiliary machines.

*Illustrative examples: Boiler Installer, Boiler Mechanic, Boiler Tester*

### **47-2021 Brickmasons and Blockmasons**

Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances to construct or repair walls, partitions, arches, sewers, and other structures. Excludes "Stonemasons" (47-2022). Installers of mortarless segmental concrete masonry wall units are classified in "Landscaping and Groundskeeping Workers" (37-3011).

*Illustrative examples: Adobe Layer, Brick Chimney Builder, Refractory Bricklayer*

### **47-2022 Stonemasons**

Build stone structures, such as piers, walls, and abutments. Lay walks, curbstones, or special types of masonry for vats, tanks, and floors.

*Illustrative examples: Curbstone Setter, Granite Setter, Monument Mason*

### **47-2031 Carpenters**

Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; and wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Includes brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways.

*Illustrative examples: Building Carpenter, Custom Wood Stair Builder, Wood Floor Layer*

### **47-2041 Carpet Installers**

Lay and install carpet from rolls or blocks on floors. Install padding and trim flooring materials. Excludes "Floor Layers, Except Carpet, Wood, and Hard Tiles" (47-2042).

*Illustrative examples: Carpet Layer, Wall-to-Wall Carpet Installer*

### **47-2042 Floor Layers, Except Carpet, Wood, and Hard Tiles**

Apply blocks, strips, or sheets of shock-absorbing, sound-deadening, or decorative coverings to floors.

*Illustrative examples: Composition Floor Layer, Cork Floor Installer, Linoleum Installer, Shock-Absorption Floor Installer*

#### **47-2043 Floor Sanders and Finishers**

Scrape and sand wooden floors to smooth surfaces using floor scraper and floor sanding machine, and apply coats of finish.

*Illustrative examples: Floor Sanding Machine Operator, Floor Scraper, Hardwood Finisher*

#### **47-2044 Tile and Marble Setters**

Apply hard tile, marble, and wood tile to walls, floors, ceilings, and roof decks.

*Illustrative examples: Ceramic Tile Installer, Hard Tile Setter, Marble Ceiling Installer,*

#### **47-2051 Cement Masons and Concrete Finishers**

Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; and use saws to cut expansion joints. Installers of mortarless segmental concrete masonry wall units are classified in "Landscaping and Groundskeeping Workers" (37-3011).

*Illustrative examples: Cement Patcher, Concrete Floor Installer, Concrete Swimming Pool Installer*

#### **47-2053 Terrazzo Workers and Finishers**

Apply a mixture of cement, sand, pigment, or marble chips to floors, stairways, and cabinet fixtures to fashion durable and decorative surfaces.

*Illustrative examples: Onyx-Chip Terrazzo Worker, Terrazzo Grinder, Terrazzo Setter*

#### **47-2061 Construction Laborers**

Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris and other waste materials. May assist other craft workers. Construction laborers who primarily assist a particular craft worker are classified under "Helpers, Construction Trades" (47-3010). Excludes "Hazardous Materials Removal Workers" (47-4041).

*Illustrative examples: Air Hammer Operator, Construction Craft Laborer, Construction Trench Digger*

#### **47-2071 Paving, Surfacing, and Tamping Equipment Operators**

Operate equipment used for applying concrete, asphalt, or other materials to road beds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel, dirt, or other materials. Includes concrete and asphalt paving machine operators, form tampers, tamping machine operators, and stone spreader operators.

*Illustrative examples: Asphalt Roller Operator, Blacktop-Paver Operator, Road Grader*

#### **47-2072 Pile-Driver Operators**

Operate pile drivers mounted on skids, barges, crawler treads, or locomotive cranes to drive pilings for retaining walls, bulkheads, and foundations of structures, such as buildings, bridges, and piers.

*Illustrative examples: Hydraulic Pile Hammer Operator, Vibratory Pile Driver*

#### **47-2073 Operating Engineers and Other Construction Equipment Operators**

Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment in addition to other duties. Excludes "Crane and Tower Operators" (53-7021) and "Extraction Workers" (47-5000).  
*Illustrative examples: Bulldozer Operator, Steam Shovel Operator*

#### **47-2081 Drywall and Ceiling Tile Installers**

Apply plasterboard or other wallboard to ceilings or interior walls of buildings. Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Materials may be of decorative quality. Includes lathers who fasten wooden, metal, or rockboard lath to walls, ceilings or partitions of buildings to provide support base for plaster, fire-proofing, or acoustical material. Excludes "Carpet Installers" (47-2041), "Carpenters" (47-2031), and "Tile and Marble Setters" (47-2044).

*Illustrative examples: Acoustical Ceiling Installer, Drywall Finisher, Sheet Rock Hanger*

#### **47-2082 Tapers**

Seal joints between plasterboard or other wallboard to prepare wall surface for painting or papering.

*Illustrative examples: Drywall Taper, Sheet Rock Taper, Wall Taper*

#### **47-2111 Electricians**

Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems. Excludes "Security and Fire Alarm Systems Installers" (49-2098).

*Illustrative examples: Electrical Sign Wirer, Master Electrician, Solar Photovoltaic Electrician*

#### **47-2121 Glaziers**

Install glass in windows, skylights, store fronts, and display cases, or on surfaces, such as building fronts, interior walls, ceilings, and tabletops.

*Illustrative examples: Plate Glass Installer, Stained Glass Joiner*

#### **47-2131 Insulation Workers, Floor, Ceiling, and Wall**

Line and cover structures with insulating materials. May work with batt, roll, or blown insulation materials.

*Illustrative examples: Ceiling Insulation Blower, Composition Weatherboard Installer, Interior Surface Insulation Worker*

#### **47-2132 Insulation Workers, Mechanical**

Apply insulating materials to pipes or ductwork, or other mechanical systems in order to help control and maintain temperature.

*Illustrative examples: Boiler Coverer, Pipe Coverer, Pipe Insulator*

#### **47-2141 Painters, Construction and Maintenance**

Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency. Excludes "Paperhangers" (47-2142). *Illustrative examples: Bridge Painter, House Painter, Traffic Line Painter*

#### **47-2142 Paperhangers**

Cover interior walls or ceilings of rooms with decorative wallpaper or fabric, or attach advertising posters on surfaces such as walls and billboards. May remove old materials or prepare surfaces to be papered.

*Illustrative examples: Billboard Poster, Wall Covering Installer, Wallpaperer*

#### **47-2151 Pipelayers**

Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any combination of the following tasks: grade trenches or culverts, position pipe, or seal joints. Excludes "Welders, Cutters, Solderers, and Brazers" (51-4121).

*Illustrative examples: Cast-Iron Drain Pipe Layer, Trench Pipe Layer, Water Main Pipe Layer*

#### **47-2152 Plumbers, Pipefitters, and Steamfitters**

Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems. Includes sprinklerfitters.

*Illustrative examples: Fire Sprinkler Installer, Solar Thermal Installer, Sprinkler Fitter*

#### **47-2161 Plasterers and Stucco Masons**

Apply interior or exterior plaster, cement, stucco, or similar materials. May also set ornamental plaster.

*Illustrative examples: Ornamental Plasterer, Stucco Worker, Swimming Pool Plasterer*

#### **47-2171 Reinforcing Iron and Rebar Workers**

Position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools.

Includes rod busters. *Illustrative examples: Post Tensioning Iron Worker, Steel Rod Buster*

#### **47-2181 Roofers**

Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, or related materials. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.

*Illustrative examples: Hot Tar Roofer, Shingles Roofer, Terra Cotta Roofer*

#### **47-2211 Sheet Metal Workers**

Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; shaping metal over anvils, blocks, or forms using hammer; operating soldering and welding equipment to join sheet metal parts; or inspecting, assembling, and smoothing seams and joints of burred surfaces. Includes sheet metal duct installers who install prefabricated sheet metal ducts used for heating, air conditioning, or other purposes.

*Illustrative examples: Heating, Ventilation, and Air Conditioning (HVAC) Sheet Metal Installer; Sheet Metal Former; Tinsmith*

#### **47-2221 Structural Iron and Steel Workers**

Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings. Excludes "Reinforcing Iron and Rebar Workers" (47-2171).

*Illustrative examples: Bridge Ironworker, Precast Concrete Ironworker, Wind Turbine Erector*

#### **47-2231 Solar Photovoltaic Installers**

Assemble, install, or maintain solar photovoltaic (PV) systems on roofs or other structures in compliance with site assessment and schematics. May include measuring, cutting, assembling, and bolting structural framing and solar modules. May perform minor electrical work such as current checks. Excludes solar thermal installers who are included in "Plumbers, Pipefitters, and Steamfitters" (47-2152). Excludes solar PV electricians who are included in "Electricians" (47-2111).

*Illustrative examples: Photovoltaic (PV) Installation Technician, Solar PV Installer*

#### **47-3011 Helpers—Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters**

Help brickmasons, blockmasons, stonemasons, or tile and marble setters by performing duties requiring less skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Construction laborers who do not primarily assist brickmasons, blockmasons, and stonemasons or tile and marble setters are classified under "Construction Laborers" (47-2061). Apprentice workers are classified with the appropriate skilled construction trade occupation (47-2011 through 47-2231).

*Illustrative examples: Brick Carrier, Brick Washer, Refractory Tile Helper*

#### **47-3012 Helpers—Carpenters**

Help carpenters by performing duties requiring less skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Construction laborers who do not primarily assist carpenters are classified under "Construction Laborers" (47-2061). Apprentice workers are classified with the appropriate skilled construction trade occupation (47-2011 through 47-2231).

*Illustrative examples: Carpenter Assistant, Hardwood Floor Installation Helper*

#### **47-3013 Helpers—Electricians**

Help electricians by performing duties requiring less skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Construction laborers who do not primarily assist electricians are classified under "Construction Laborers" (47-2061). Apprentice workers are classified with the appropriate skilled construction trade occupation (47-2011 through 47-2231).

*Illustrative examples: Marine Electrician Helper, Stage Electrician Helper*

#### **47-3014 Helpers—Painters, Paperhangers, Plasterers, and Stucco Masons**

Help painters, paperhangers, plasterers, or stucco masons by performing duties requiring less skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Construction laborers who do not primarily assist painters, paperhangers, plasterers, or stucco masons are classified under "Construction Laborers" (47-2061). Apprentice workers are classified with the appropriate skilled construction trade occupation (47-2011 through 47-2231).

*Illustrative examples: Bridge Painter Helper, Dry Plasterer Helper, Wallpaperer Helper*

#### **47-3015 Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters**

Help plumbers, pipefitters, steamfitters, or pipelayers by performing duties requiring less skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Construction laborers who do not primarily assist plumbers, pipefitters, steamfitters, or pipelayers are classified under "Construction Laborers" (47-2061). Apprentice workers are classified with the appropriate skilled construction trade occupation (47-2011 through 47-2231).

*Illustrative examples: Industrial Gas Fitter Helper, Marine Pipefitter Helper, Plumber Assistant, Water Main Installer Helper*

#### **47-3016 Helpers—Roofers**

Help roofers by performing duties requiring less skill. Duties include using, supplying or holding materials or tools, and cleaning work area and equipment. Construction laborers who do not primarily assist roofers are classified under "Construction Laborers" (47-2061). Apprentice workers are classified with the appropriate skilled construction trade occupation (47-2011 through 47-2231).

*Illustrative examples: Hot Tar Roofer Helper, Shingles Roofer Helper, Slate Roofer Helper, Terra Cotta Roofer Helper*

#### **47-3019 Helpers, Construction Trades, All Other**

All construction trades helpers not listed separately.

*Illustrative examples: Cellulose Insulation Helper, Drywall Hanger Helper, Rod Buster Helper, Terrazzo Finisher Helper*

#### **47-4011 Construction and Building Inspectors**

Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations. Inspections may be general in nature or may be limited to a specific area, such as electrical systems or plumbing.

*Illustrative examples: Electrical Inspector, Elevator Inspector, Highway Inspector*

#### **47-4021 Elevator Installers and Repairers**

Assemble, install, repair, or maintain electric or hydraulic freight or passenger elevators, escalators, or dumbwaiters.

*Illustrative examples: Elevator Mechanic, Escalator Installer, Hydraulic Elevator Constructor*

#### **47-4031 Fence Erectors**

Erect and repair fences and fence gates, using hand and power tools.

*Illustrative examples: Wire Fence Builder, Wood Fence Installer*

#### **47-4041 Hazardous Materials Removal Workers**

Identify, remove, pack, transport, or dispose of hazardous materials, including asbestos, lead-based paint, waste oil, fuel, transmission fluid, radioactive materials, or contaminated soil. Specialized training and certification in hazardous materials handling or a confined entry permit are generally required. May operate earth-moving equipment or trucks.

*Illustrative examples: Asbestos Abatement Worker, Decontamination Worker, Irradiated Fuel Handler*

#### **47-4051 Highway Maintenance Workers**

Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences. May also mow or clear brush from along road or plow snow from roadway. Excludes "Tree Trimmers and Pruners" (37-3013).

*Illustrative examples: Road Patcher, Road Sign Installer*

#### **47-4061 Rail-Track Laying and Maintenance Equipment Operators**

Lay, repair, and maintain track for standard or narrow-gauge railroad equipment used in regular railroad service or in plant yards, quarries, sand and gravel pits, and mines. Includes ballast cleaning machine operators and railroad bed tamping machine operators.

*Illustrative examples: Rail Maintenance Worker, Track Repairer, Track Surfacing Machine Operator*

#### **47-4071 Septic Tank Servicers and Sewer Pipe Cleaners**

Clean and repair septic tanks, sewer lines, or drains. May patch walls and partitions of tank, replace damaged drain tile, or repair breaks in underground piping.

*Illustrative examples: Electric Sewer Cleaning Machine Operator, Septic Tank Cleaner, Sewage Screen Operator*

#### **47-4091 Segmental Pavers**

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

*Illustrative examples: Concrete Pavement Installer, Paving Stone Installer*

#### **47-4099 Construction and Related Workers, All Other**

All construction and related workers not listed separately.

*Illustrative examples: Aluminum Pool Installer, Waterproofer*

#### **47-5011 Derrick Operators, Oil and Gas**

Rig derrick equipment and operate pumps to circulate mud through drill hole.

*Illustrative examples: Rotary Derrick Operator, Well Service Derrick Worker*

**47-5012 Rotary Drill Operators, Oil and Gas**

Set up or operate a variety of drills to remove underground oil and gas, or remove core samples for testing during oil and gas exploration. Excludes "Earth Drillers, Except Oil and Gas" (47-5021).

*Illustrative examples: Oil Well Cable Tool Operator, Oil Well Driller*

**47-5013 Service Unit Operators, Oil, Gas, and Mining**

Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells. May also perform similar services in mining exploration operations. Includes fishing-tool technicians.

*Illustrative example: Well Servicing Rig Operator*

**47-5021 Earth Drillers, Except Oil and Gas**

Operate a variety of drills such as rotary, churn, and pneumatic to tap sub-surface water and salt deposits, to remove core samples during mineral exploration or soil testing, and to facilitate the use of explosives in mining or construction. May use explosives. Includes horizontal and earth boring machine operators.

*Illustrative examples: Blast Hole Driller, Churn Driller, Earth Auger Operator*

**47-5031 Explosives Workers, Ordnance Handling Experts, and Blasters**

Place and detonate explosives to demolish structures or to loosen, remove, or displace earth, rock, or other materials. May perform specialized handling, storage, and accounting procedures. Includes seismograph shooters. Excludes "Earth Drillers, Except Oil and Gas" (47-5021) who may also work with explosives.

*Illustrative examples: Blast Setter, Dynamiter, Explosive Technician*

**47-5041 Continuous Mining Machine Operators**

Operate self-propelled mining machines that rip coal, metal and nonmetal ores, rock, stone, or sand from the mine face and load it onto conveyors or into shuttle cars in a continuous operation.

*Illustrative examples: Continuous Mining Machine Lode Miner, Self-Propelled Mining Machine Operator*

**47-5042 Mine Cutting and Channeling Machine Operators**

Operate machinery such as longwall shears, plows, and cutting machines to cut or channel along the face or seams of coal mines, stone quarries, or other mining surfaces to facilitate blasting, separating, or removing minerals or materials from mines or from the Earth's surface. Includes shale planers.

*Illustrative examples: Bore Miner Operator, Clay Mine Cutting Machine Operator, Long Wall Shear Operator*

**47-5049 Mining Machine Operators, All Other**

All mining machine operators not listed separately.

*Illustrative examples: Dry Placer Machine Operator, Rock Dust Sprayer*

**47-5051 Rock Splitters, Quarry**

Separate blocks of rough dimension stone from quarry mass using jackhammer and wedges.

*Illustrative examples: Quarry Plug and Feather Driller, Sandstone Splitter*

**47-5061 Roof Bolters, Mining**

Operate machinery to install roof support bolts in underground mine.

*Illustrative examples: Roof Bolting Coal Miner, Underground Bolting Machine Operator, Underground Roof Bolter*

**47-5071 Roustabouts, Oil and Gas**

Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed.

*Illustrative examples: Oil Field Roustabout, Oil Rig Roughneck*

**47-5081 Helpers—Extraction Workers**

Help extraction craft workers, such as earth drillers, blasters and explosives workers, derrick operators, and mining machine operators, by performing duties requiring less skill. Duties include supplying equipment or cleaning work area. Apprentice workers are classified with the appropriate skilled construction trade occupation (47-2011 through 47-2231).

*Illustrative examples: Blaster Helper, Mining Helper, Roof Bolter Helper*

**47-5099 Extraction Workers, All Other**

All extraction workers not listed separately.

*Illustrative example: Sandfill Operator*

**BLANK PAGE**

## **49-000 – INSTALLATION, MAINTENANCE & REPAIR OCCUPATIONS**

### **49-1011 First-Line Supervisors of Mechanics, Installers, and Repairers**

Directly supervise and coordinate the activities of mechanics, installers, and repairers. Excludes team or work leaders. *Illustrative example: Automobile Body Repair Supervisor, Fleet Maintenance Supervisor, Railroad Car Repair Supervisor*

### **49-2011 Computer, Automated Teller, and Office Machine Repairers**

Repair, maintain, or install computers, word processing systems, automated teller machines, and electronic office machines, such as duplicating and fax machines. *Illustrative examples: ATM Servicer, Cash Register Servicer, Data Processing Equipment Repairer*

### **49-2021 Radio, Cellular, and Tower Equipment Installers and Repairers**

Repair, install or maintain mobile or stationary radio transmitting, broadcasting, and receiving equipment, and two-way radio communications systems used in cellular telecommunications, mobile broadband, ship-to-shore, aircraft-to-ground communications, and radio equipment in service and emergency vehicles. May test and analyze network coverage.

*Illustrative examples: Radio Frequency Technician, Radio Mechanic, Two-Way Radio Technician*

### **49-2022 Telecommunications Equipment Installers and Repairers, Except Line Installers**

Install, set-up, rearrange, or remove switching, distribution, routing, and dialing equipment used in central offices or headends. Service or repair telephone, cable television, Internet, and other communications equipment on customers' property. May install communications equipment or communications wiring in buildings. Excludes "Telecommunications Line Installers and Repairers" (49-9052).

*Illustrative examples: Fiber Optic Central Office Installer, Private Branch Exchange (PBX) Installer and Repairer*

### **49-2091 Avionics Technicians**

Install, inspect, test, adjust, or repair avionics equipment, such as radar, radio, navigation, and missile control systems in aircraft or space vehicles.

*Illustrative examples: Aircraft Electrician, Aircraft Instrument Mechanic, Automatic Pilot Mechanic*

### **49-2092 Electric Motor, Power Tool, and Related Repairers**

Repair, maintain, or install electric motors, wiring, or switches.

*Illustrative examples: Armature Rewinder, Electrical Parts Reconditioner*

### **49-2093 Electrical and Electronics Installers and Repairers, Transportation Equipment**

Install, adjust, or maintain mobile electronics communication equipment, including sound, sonar, security, navigation, and surveillance systems on trains, watercraft, or other mobile equipment. Excludes "Avionics Technicians" (49-2091) and "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096).

*Illustrative examples: Locomotive Electrician, Marine Electronics Repairer*

#### **49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment**

Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas. Excludes "Avionics Technicians" (49-2091), "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096), and "Electrical and Electronics Installers and Repairers, Transportation Equipment" (49-2093).

*Illustrative examples: Industrial Robotics Mechanic, Missile Pad Mechanic, Public Address System Mechanic*

#### **49-2095 Electrical and Electronics Repairers, Powerhouse, Substation, and Relay**

Inspect, test, repair, or maintain electrical equipment in generating stations, substations, and in-service relays.

*Illustrative examples: Power Transformer Repairer, Powerhouse Electrician, Relay Technician*

#### **49-2096 Electronic Equipment Installers and Repairers, Motor Vehicles**

Install, diagnose, or repair communications, sound, security, or navigation equipment in motor vehicles.

*Illustrative examples: Automotive Electrician, Car Alarm Installer, Car Stereo Installer, GPS Car Navigation Installer*

#### **49-2097 Electronic Home Entertainment Equipment Installers and Repairers**

Repair, adjust, or install audio or television receivers, stereo systems, camcorders, video systems, or other electronic home entertainment equipment.

*Illustrative examples: Electronic Musical Instrument Repairer, Home Theater Installer, Satellite Dish Installer, Wireless Internet Installer*

#### **49-2098 Security and Fire Alarm Systems Installers**

Install, program, maintain, or repair security or fire alarm wiring and equipment. Ensure that work is in accordance with relevant codes. Excludes "Electricians" (47-2111) who do a broad range of electrical wiring.

*Illustrative examples: Burglar Alarm Installer, Fire Alarm Installer, Home Security Alarm Installer*

#### **49-3011 Aircraft Mechanics and Service Technicians**

Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Includes helicopter and aircraft engine specialists. Excludes "Avionics Technician" (49-2091).

*Illustrative examples: Aircraft Engine Specialist, Airframe Mechanic, Flight Test Mechanic*

#### **49-3012 Aircraft Mechanics and Service Technicians, FAA Certified**

*Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. FAA certification required. Include FAA certified helicopter and aircraft engine specialists. Excludes "Avionics Technician" (49-2091).*

#### **49-3013 Aircraft Mechanics and Service Technicians, not FAA Certified**

*Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Include helicopter and aircraft engine specialists. Excludes "Avionics Technician" (49-2091).*

#### **49-3021 Automotive Body and Related Repairers**

Repair and refinish automotive vehicle bodies and straighten vehicle frames. Excludes "Painters, Transportation Equipment" (51-9122) and "Automotive Glass Installers and Repairers" (49-3022).

*Illustrative examples: Auto Body Customizer, Auto Bumper Straightener, Truck Body Repairer*

#### **49-3022 Automotive Glass Installers and Repairers**

Replace or repair broken windshields and window glass in motor vehicles.

*Illustrative examples: Auto Glass Mechanic, Automotive Glazier, Windshield Installer*

#### **49-3023 Automotive Service Technicians and Mechanics**

Diagnose, adjust, repair, or overhaul automotive vehicles. Excludes "Automotive Body and Related Repairers" (49-3021), "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031), and "Electronic Equipment Installers and Repairers, Motor Vehicles" (49-2096).

*Illustrative examples: Auto Transmission Specialist, Automotive Brake Technician, Automotive Fuel Injection Servicer, Hybrid Car Mechanic*

#### **49-3031 Bus and Truck Mechanics and Diesel Engine Specialists**

Diagnose, adjust, repair, or overhaul buses and trucks, or maintain and repair any type of diesel engines. Includes mechanics working primarily with automobile or marine diesel engines.

*Illustrative examples: Biodiesel Engine Specialist, Marine Diesel Technician, School Bus Mechanic, Tractor Trailer Mechanic*

#### **49-3041 Farm Equipment Mechanics and Service Technicians**

Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems. Excludes "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

*Illustrative examples: Combine Mechanic, Dairy Equipment Repairer, Irrigation Equipment Mechanic*

#### **49-3042 Mobile Heavy Equipment Mechanics, Except Engines**

Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining. Excludes "Rail Car Repairers" (49-3043) and "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

*Illustrative examples: Bulldozer Mechanic, Construction Equipment Mechanic, Forklift Mechanic*

#### **49-3043 Rail Car Repairers**

Diagnose, adjust, repair, or overhaul railroad rolling stock, mine cars, or mass transit rail cars. Excludes "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

*Illustrative examples: Mine Car Mechanic, Street Car Repairer, Subway Car Repairer, Trolley Car Overhauler*

#### **49-3051 Motorboat Mechanics and Service Technicians**

Repair and adjust electrical and mechanical equipment of inboard or inboard-outboard boat engines. Excludes "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

*Illustrative examples: Certified Marine Mechanic, Outboard Motor Mechanic*

#### **49-3052 Motorcycle Mechanics**

Diagnose, adjust, repair, or overhaul motorcycles, scooters, mopeds, dirt bikes, or similar motorized vehicles.

*Illustrative examples: All Terrain Vehicle Technician, Motorcycle Service Technician, Motor Scooter Mechanic*

#### **49-3053 Outdoor Power Equipment and Other Small Engine Mechanics**

Diagnose, adjust, repair, or overhaul small engines used to power lawn mowers, chain saws, recreational sporting equipment and related equipment.

*Illustrative examples: Golf Cart Mechanic, Lawn Mower Repairer, Mobility Scooter Repairer, Power Saw Mechanic*

#### **49-3091 Bicycle Repairers**

Repair and service bicycles.

*Illustrative examples: Bicycle Mechanic, Bicycle Service Technician*

#### **49-3092 Recreational Vehicle Service Technicians**

Diagnose, inspect, adjust, repair, or overhaul recreational vehicles including travel trailers. May specialize in maintaining gas, electrical, hydraulic, plumbing, or chassis/towing systems as well as repairing generators, appliances, and interior components. Includes workers who perform customized van conversions. Excludes "Automotive Service Technicians and Mechanics" (49-3023) and "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031) who also work on recreation vehicles.

*Illustrative examples: Recreational Vehicle (RV) Repairer, RV Mechanic*

#### **49-3093 Tire Repairers and Changers**

Repair and replace tires.

*Illustrative examples: Tire Balancer, Tire Fixer*

#### **49-9011 Mechanical Door Repairers**

Install, service, or repair automatic door mechanisms and hydraulic doors. Includes garage door mechanics.

*Illustrative example: Automatic Door Mechanic*

#### **49-9012 Control and Valve Installers and Repairers, Except Mechanical Door**

Install, repair, and maintain mechanical regulating and controlling devices, such as electric meters, gas regulators, thermostats, safety and flow valves, and other mechanical governors.

*Illustrative examples: Air Valve Mechanic, Gas Meter Installer, Thermostat Repairer*

#### **49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers**

Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.

*Illustrative examples: Gas Furnace Installer; Heating, Ventilation, and Air Conditioning (HVAC) Mechanic; Oil Burner Repairer*

#### **49-9031 Home Appliance Repairers**

Repair, adjust, or install all types of electric or gas household appliances, such as refrigerators, washers, dryers, and ovens.

*Illustrative examples: Vacuum Cleaner Repairer, Washing Machine Installer, Window Air Conditioner Installer*

#### **49-9041 Industrial Machinery Mechanics**

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems. Excludes "Millwrights" (49-9044), "Mobile Heavy Equipment Mechanics, Except Engines" (49-3042), and "Maintenance Workers, Machinery" (49-9043). *Illustrative examples: Boilerhouse Mechanic, Foundry Equipment Mechanic, Hydroelectric Machinery Mechanic*

#### **49-9043 Maintenance Workers, Machinery**

Lubricate machinery, change parts, or perform other routine machinery maintenance. Excludes "Maintenance and Repair Workers, General" (49-9071).  
*Illustrative example: Crane Oiler*

#### **49-9044 Millwrights**

Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.  
*Illustrative examples: Machine Erector, Machinery Dismantler, Maintenance Millwright*

#### **49-9045 Refractory Materials Repairers, Except Brickmasons**

Build or repair equipment such as furnaces, kilns, cupolas, boilers, converters, ladles, soaking pits and ovens, using refractory materials.  
*Illustrative examples: Bondactor Machine Repairer, Cupola Repairer, Kiln Door Builder, Ladle Repairer*

#### **49-9051 Electrical Power-Line Installers and Repairers**

Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers. Excludes "Electrical and Electronics Repairers, Powerhouse, Substation, and Relay" (49-2095).  
*Illustrative examples: Electric Powerline Examiner, Electric Utility Lineworker, Electrical High Tension Tester, Electrical Lineworker*

#### **49-9052 Telecommunications Line Installers and Repairers**

Install and repair telecommunications cable, including fiber optics.  
*Illustrative examples: Cable Television Installer, FIOS Line Installer, Telephone Cable Splicer*

#### **49-9061 Camera and Photographic Equipment Repairers**

Repair and adjust cameras and photographic equipment, including commercial video and motion picture camera equipment.  
*Illustrative example: Aircraft Photographic Equipment Repairer, Camera Repairer, Photographic Equipment Technician*

#### **49-9062 Medical Equipment Repairers**

Test, adjust, or repair biomedical or electromedical equipment.  
*Illustrative examples: Biomedical Equipment Technician, Radiology Equipment Servicer, Surgical Instrument Mechanic*

#### **49-9063 Musical Instrument Repairers and Tuners**

Repair percussion, stringed, reed, or wind instruments. May specialize in one area, such as piano tuning. Excludes "Electronic Home Entertainment Equipment Installers and Repairers" (49-2097) who repair electrical and electronic musical instruments.  
*Illustrative examples: Brass and Wind Instrument Repairer, Piano Tuner, Violin Repairer*

**49-9064 Watch Repairers**

Repair, clean, and adjust mechanisms of timing instruments, such as watches and clocks. Includes watchmakers, watch technicians, and mechanical timepiece repairers. *Illustrative examples: Antique Clock Repairer, Clock Repair Technician, Horologist*

**49-9069 Precision Instrument and Equipment Repairers, All Other**

All precision instrument and equipment repairers not listed separately. *Illustrative examples: Gyroscope Repairer, Telescope Repairer*

**49-9071 Maintenance and Repair Workers, General**

Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs. Excludes "Maintenance Workers, Machinery" (49-9043). *Illustrative example: Building Maintenance Mechanic*

**49-9081 Wind Turbine Service Technicians**

Inspect, diagnose, adjust, or repair wind turbines. Perform maintenance on wind turbine equipment including resolving electrical, mechanical, and hydraulic malfunctions. *Illustrative examples: Wind Energy Technician, Wind Turbine Mechanic*

**49-9091 Coin, Vending, and Amusement Machine Servicers and Repairers**

Install, service, adjust, or repair coin, vending, or amusement machines including video games, juke boxes, pinball machines, or slot machines. *Illustrative examples: Arcade Games Mechanic, Parking Meter Collector, Slot Machine Mechanic, Vending Machine Filler*

**49-9092 Commercial Divers**

Work below surface of water, using scuba gear to inspect, repair, remove, or install equipment and structures. May use a variety of power and hand tools, such as drills, sledgehammers, torches, and welding equipment. May conduct tests or experiments, rig explosives, or photograph structures or marine life. Excludes "Fishers and Related Fishing Workers" (45-3011), "Athletes and Sports Competitors" (27-2021), and "Police and Sheriff's Patrol Officers" (33-305). *Illustrative examples: Marine Diver, Salvage Diver, Scuba Diver, Underwater Welder*

**49-9093 Fabric Menders, Except Garment**

Repair tears, holes, and other defects in fabrics, such as draperies, linens, parachutes, and tents. *Illustrative examples: Fabric Awning Repairer, Parachute Repairer, Sail Repairer*

**49-9094 Locksmiths and Safe Repairers**

Repair and open locks; make keys; change locks and safe combinations; and install and repair safes. *Illustrative examples: Key Maker, Safe and Vault Installer, Safe and Vault Mechanic*

**49-9095 Manufactured Building and Mobile Home Installers**

Move or install mobile homes or prefabricated buildings. *Illustrative examples: Housetrailer Servicer, Mobile Home Mechanic, Mobile Home Servicer*

**49-9096 Riggers**

Set up or repair rigging for construction projects, manufacturing plants, logging yards, ships and shipyards, or for the entertainment industry.

*Illustrative examples: Acrobatic Rigger, Crane Rigger, Yard Rigger*

**49-9097 Signal and Track Switch Repairers**

Install, inspect, test, maintain, or repair electric gate crossings, signals, signal equipment, track switches, section lines, or intercommunications systems within a railroad system.

*Illustrative examples: Light Rail Signal Technician, Rail Signal Mechanic, Third Rail Installer*

**49-9098 Helpers—Installation, Maintenance, and Repair Workers**

Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment. Perform duties such as furnishing tools, materials, and supplies to other workers; cleaning work area, machines, and tools; and holding materials or tools for other workers.

*Illustrative examples: Automobile Body Repairer Helper, Locksmith Helper, Motorboat Mechanic Helper*

**49-9099 Installation, Maintenance, and Repair Workers, All Other**

All installation, maintenance, and repair workers not listed separately.

*Illustrative examples: Bowling Alley Mechanic, Fire Extinguisher Installer, Gasoline Pump Installer, Gunsmith*

**BLANK PAGE**

## **51-000 – PRODUCTION OCCUPATIONS**

### **51-1011 First-Line Supervisors of Production and Operating Workers**

Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Excludes team or work leaders.

*Illustrative examples: Assembly Line Supervisor, Machinist Supervisor, Printing Worker Supervisor*

### **51-2011 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers**

Assemble, fit, fasten, and install parts of airplanes, space vehicles, or missiles, such as tails, wings, fuselage, bulkheads, stabilizers, landing gear, rigging and control equipment, or heating and ventilating systems.

*Illustrative examples: Aircraft De-Icer Installer, Aircraft Fuselage Framer, Aircraft Riveter*

### **51-2021 Coil Winders, Tapers, and Finishers**

Wind wire coils used in electrical components, such as resistors and transformers, and in electrical equipment and instruments, such as field cores, bobbins, armature cores, electrical motors, generators, and control equipment.

*Illustrative examples: Coil Builder, Motor Winder, Wire Coiler*

### **51-2022 Electrical and Electronic Equipment Assemblers**

Assemble or modify electrical or electronic equipment, such as computers, test equipment telemetering systems, electric motors, and batteries.

*Illustrative examples: Anode Builder, Battery Builder, Circuit Board Assembler, Electric Motor Controls Assembler*

### **51-2023 Electromechanical Equipment Assemblers**

Assemble or modify electromechanical equipment or devices, such as servomechanisms, gyros, dynamometers, magnetic drums, tape drives, brakes, control linkage, actuators, and appliances.

*Illustrative examples: Programmable Logic Controller Assembler, Synchronous Motor Assembler, Vacuum Cleaner Assembler, Vending Machine Assembler*

### **51-2031 Engine and Other Machine Assemblers**

Construct, assemble, or rebuild machines, such as engines, turbines, and similar equipment used in such industries as construction, extraction, textiles, and paper manufacturing.

*Illustrative examples: Gas Turbine Assembler, Machine Builder, Steam Turbine Assembler*

### **51-2041 Structural Metal Fabricators and Fitters**

Fabricate, position, align, and fit parts of structural metal products. Shipfitters are included in "Layout Workers, Metal and Plastic" (51-4192).

*Illustrative examples: Mill Beam Fitter, Protector Plate Attacher*

### **51-2091 Fiberglass Laminators and Fabricators**

Laminate layers of fiberglass on molds to form boat decks and hulls, bodies for golf carts, automobiles, or other products.

*Illustrative examples: Fiberglass Boat Builder, Fiberglass Ski Maker*

### **51-2092 Team Assemblers**

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. Includes team leaders who work as part of the team. Assemblers who continuously perform the same task are classified elsewhere in 51-2000.

*Illustrative examples: Team Assembly Line Machine Operator, Lead Team Assembler, Team Automobile Assembler*

### **51-2093 Timing Device Assemblers and Adjusters**

Perform precision assembling, adjusting, or calibrating, within narrow tolerances, of timing devices such as digital clocks or timing devices with electrical or electronic components. Excludes watchmakers, which are included in "Watch Repairers" (49-9064).

*Illustrative examples: Digital Watch Assembler, Electrical Timing Device Calibrator, Marine Chronometer Assembler*

### **51-2099 Assemblers and Fabricators, All Other**

All assemblers and fabricators not listed separately.

*Illustrative examples: Air Bag Builder, Crate Builder, Doll Maker*

### **51-3011 Bakers**

Mix and bake ingredients to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods. Pastry chefs in restaurants and hotels are included with "Chefs and Head Cooks" (35-1011).

*Illustrative examples: Bagel Maker, Bread Baker, Pastry Finisher*

### **51-3021 Butchers and Meat Cutters**

Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments. *Illustrative examples: Butcher Apprentice, Kosher Butcher, Meat Carver, Meat Counter Worker*

### **51-3022 Meat, Poultry, and Fish Cutters and Trimmers**

Use hand or hand tools to perform routine cutting and trimming of meat, poultry, and seafood.

*Illustrative examples: Fish Filleter, Oyster Shucker, Poultry Eviscerator, Shrimp Picker*

### **51-3023 Slaughterers and Meat Packers**

Work in slaughtering, meat packing, or wholesale establishments performing precision functions involving the preparation of meat. Work may include specialized slaughtering tasks, cutting standard or premium cuts of meat for marketing, making sausage, or wrapping meats. Excludes "Meat, Poultry, and Fish Cutters and Trimmers" (51-3022) who perform routine meat cutting.

*Illustrative examples: Halal Meat Packer, Poultry Slaughter, Shochet*

### **51-3091 Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders**

Operate or tend food or tobacco roasting, baking, or drying equipment, including hearth ovens, kiln driers, roasters, char kilns, and vacuum drying equipment.

*Illustrative examples: Coffee Roaster, Fish Smoker, Meat Curer, Smokehouse Worker*

**51-3092 Food Batchmakers**

Set up and operate equipment that mixes or blends ingredients used in the manufacturing of food products. Includes candy makers and cheese makers.

*Illustrative examples: Frozen Yogurt Maker, Honey Blender, Peanut Butter Maker*

**51-3093 Food Cooking Machine Operators and Tenders**

Operate or tend cooking equipment, such as steam cooking vats, deep fry cookers, pressure cookers, kettles, and boilers, to prepare food products. Excludes "Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders" (51-3091).

*Illustrative examples: Doughnut Machine Operator, Dumpling Machine Operator, Potato Chip Frier*

**51-3099 Food Processing Workers, All Other**

All food processing workers not listed separately.

*Illustrative examples: Olive Pitter, Poultry Hanger, Yeast Maker*

**51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic**

Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.

*Illustrative examples: Computer Numerically Controlled (CNC) Shot Peening Operator, Jig Boring Machine Operator for Metal, Welding Robot Operator*

**51-4012 Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic**

Develop programs to control machining or processing of metal or plastic parts by automatic machine tools, equipment, or systems.

*Illustrative examples: Metal Numerical Control Programmer, Metal Numerical Tool Programmer, Sheet Metal Computer Numerically Controlled (CNC) Programmer*

**51-4021 Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend machines to extrude or draw thermoplastic or metal materials into tubes, rods, hoses, wire, bars, or structural shapes.

*Illustrative example: Wire Drawing Machine Tender*

**51-4022 Forging Machine Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend forging machines to taper, shape, or form metal or plastic parts. *Illustrative examples: Cold Header Operator, Forging Roll Operator, Spike Machine Operator, Swager Operator*

**51-4023 Rolling Machine Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend machines to roll steel or plastic forming bends, beads, knurls, rolls, or plate or to flatten, temper, or reduce gauge of material.

*Illustrative examples: Brass Roller, Forming Roll Operator, Plastic Straightening Roll Operator, Steel Roller*

**51-4031 Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material.

*Illustrative examples: Crimping Machine Operator for Metal, Metal Punch Press Operator, Metal Slitter*

### **51-4032 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend drilling machines to drill, bore, ream, mill, or countersink metal or plastic work pieces.

*Illustrative examples: Boring Mill Operator for Metal, Drill Press Operator for Metal, Radial Drill Press Operator for Plastic*

### **51-4033 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend grinding and related tools that remove excess material or burrs from surfaces, sharpen edges or corners, or buff, hone, or polish metal or plastic work pieces.

*Illustrative examples: Aluminum Polisher, Jewel Bearing Facer, Metal Grinder, Tool Polishing Machine Operator*

### **51-4034 Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend lathe and turning machines to turn, bore, thread, form, or face metal or plastic materials, such as wire, rod, or bar stock.

*Illustrative examples: Engine Lathe Operator, Gear Cutter, Screw Machine Operator*

### **51-4035 Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend milling or planing machines to mill, plane, shape, groove, or profile metal or plastic work pieces.

*Illustrative examples: Metal Milling Machine Operator, Plastic Thread Milling Machine Setup Operator*

### **51-4041 Machinists**

Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures.

*Illustrative examples: Automotive Machinist, Gear Machinist, Production Machinist*

### **51-4051 Metal-Refining Furnace Operators and Tenders**

Operate or tend furnaces, such as gas, oil, coal, electric-arc or electric induction, open-hearth, or oxygen furnaces, to melt and refine metal before casting or to produce specified types of steel. Excludes "Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic" (51-4191).

*Illustrative examples: Electric Arc Furnace Operator, Smelter Operator*

### **51-4052 Pourers and Casters, Metal**

Operate hand-controlled mechanisms to pour and regulate the flow of molten metal into molds to produce castings or ingots.

*Illustrative examples: Ingot Caster, Molten Iron Pourer, Steel Pourer*

### **51-4061 Model Makers, Metal and Plastic**

Set up and operate machines, such as lathes, milling and engraving machines, and jig borers to make working models of metal or plastic objects. Includes template makers.

*Illustrative examples: Metal Mockup Maker, Plastic Jig and Fixture Builder*

### **51-4062 Patternmakers, Metal and Plastic**

Lay out, machine, fit, and assemble castings and parts to metal or plastic foundry patterns, core boxes, or match plates.

### **51-4071 Foundry Mold and Coremakers**

Make or form wax or sand cores or molds used in the production of metal castings in foundries.

*Illustrative examples: Airset Caster, Green Sand Molder, Wax Pattern Coater*

### **51-4072 Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend metal or plastic molding, casting, or coremaking machines to mold or cast metal or thermoplastic parts or products.

*Illustrative examples: Aluminum Molding Machine Operator, Blow Mold Operator, Plastic Cup Fabricating Machine Operator*

### **51-4081 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend more than one type of cutting or forming machine tool or robot.

*Illustrative examples: Combination Machine Tool Operator, Multi-operation Forming Machine Setter*

### **51-4111 Tool and Die Makers**

Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools.

*Illustrative examples: Jig Bore Tool Maker, Metal Die Finisher, Metal Gauge Maker*

### **51-4121 Welders, Cutters, Solderers, and Brazers**

Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.

*Illustrative examples: Arc Welder, Cutting Torch Operator, Pipe Welder, Silver Solderer*

### **51-4122 Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders**

Set up, operate, or tend welding, soldering, or brazing machines or robots that weld, braze, solder, or heat treat metal products, components, or assemblies. Includes workers who operate laser cutters or laser-beam machines.

*Illustrative examples: Electric Beam Welder Setter, Ultrasonic Welding Machine Operator*

### **51-4191 Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend heating equipment, such as heat-treating furnaces, flame-hardening machines, induction machines, soaking pits, or vacuum equipment to temper, harden, anneal, or heat-treat metal or plastic objects.

*Illustrative examples: Annealing Furnace Operator, Induction Machine Setter, Wire Temperer*

**51-4192 Layout Workers, Metal and Plastic**

Lay out reference points and dimensions on metal or plastic stock or workpieces, such as sheets, plates, tubes, structural shapes, castings, or machine parts, for further processing. Includes shipfitters.

*Illustrative example: Shipfitter Apprentice*

**51-4193 Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic**

Set up, operate, or tend plating or coating machines to coat metal or plastic products with chromium, zinc, copper, cadmium, nickel, or other metal to protect or decorate surfaces. Includes electrolytic processes.

*Illustrative examples: Anodizer, Galvanizer, Nickel Plater*

**51-4194 Tool Grinders, Filers, and Sharpeners**

Perform precision smoothing, sharpening, polishing, or grinding of metal objects.

*Illustrative example: Tool Grinding Machine Operator*

**51-4199 Metal Workers and Plastic Workers, All Other**

All metal workers and plastic workers not listed separately.

*Illustrative examples: Electrical Discharge Machine Setup Operator, Metal Rivet Machine Operator, Tin Recovery Worker*

**51-5111 Prepress Technicians and Workers**

Format and proof text and images submitted by designers and clients into finished pages that can be printed. Includes digital and photo typesetting. May produce printing plates.

*Illustrative examples: Digital Proofing and Platemaker, Photoengraver, Plate Moulder*

**51-5112 Printing Press Operators**

Set up and operate digital, letterpress, lithographic, flexographic, gravure, or other printing machines. Includes short-run offset printing presses.

*Illustrative examples: Gravure Press Operator, Offset Press Operator, Web Press Operator*

**51-5113 Print Binding and Finishing Workers**

Bind books and other publications or finish printed products by hand or machine. May set up binding and finishing machines.

*Illustrative examples: Bookbinder, Bookbinding Machine Operator*

**51-6011 Laundry and Dry-Cleaning Workers**

Operate or tend washing or dry-cleaning machines to wash or dry-clean industrial or household articles, such as cloth garments, suede, leather, furs, blankets, draperies, linens, rugs, and carpets. Includes spotters and dyers of these articles.

*Illustrative examples: Laundry Attendant, Laundry Equipment Operator, Laundry Sorter*

**51-6021 Pressers, Textile, Garment, and Related Materials**

Press or shape articles by hand or machine.

*Illustrative examples: Clothes Ironer, Pants Presser, Wool Presser*

**51-6031 Sewing Machine Operators**

Operate or tend sewing machines to join, reinforce, decorate, or perform related sewing operations in the manufacture of garment or nongarment products.

*Illustrative examples: Blind Stitch Machine Operator, Button Sewing Machine Operator, Custom T-Shirt Embroidery Machine Operator*

**51-6041 Shoe and Leather Workers and Repairers**

Construct, decorate, or repair leather and leather-like products, such as luggage, shoes, and saddles.

*Illustrative examples: Cobbler, Saddle Maker, Shoemaker*

**51-6042 Shoe Machine Operators and Tenders**

Operate or tend a variety of machines to join, decorate, reinforce, or finish shoes and shoe parts.

*Illustrative examples: Arch Cushion Press Operator, Lasting Machine Operator, Rasper Machine Operator*

**51-6051 Sewers, Hand**

Sew, join, reinforce, or finish, usually with needle and thread, a variety of manufactured items. Includes weavers and stitchers. Excludes "Fabric Menders, Except Garment" (49-9093). *Illustrative examples: Hand Quilter, Hand Stitcher*

**51-6052 Tailors, Dressmakers, and Custom Sewers**

Design, make, alter, repair, or fit garments.

*Illustrative examples: Alterations Tailor, Coat Maker, Vest Maker*

**51-6061 Textile Bleaching and Dyeing Machine Operators and Tenders**

Operate or tend machines to bleach, shrink, wash, dye, or finish textiles or synthetic or glass fibers. *Illustrative examples: Cloth Dyer, Rug Dyer, Skein Yarn Dyer*

**51-6062 Textile Cutting Machine Setters, Operators, and Tenders**

Set up, operate, or tend machines that cut textiles.

*Illustrative examples: Canvas Cutter, Industrial Fabric Cutter, Welt Trimming Machine Operator*

**51-6063 Textile Knitting and Weaving Machine Setters, Operators, and Tenders**

Set up, operate, or tend machines that knit, loop, weave, or draw in textiles. Excludes "Sewing Machine Operators" (51-6031). *Illustrative examples: Crochet Machine Operator, Jacquard Loom Weaver, Looping Machine Operator*

**51-6064 Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders**

Set up, operate, or tend machines that wind or twist textiles; or draw out and combine sliver, such as wool, hemp, or synthetic fibers. Includes slubber machine and drawing frame operators.

*Illustrative examples: Rope Machine Setter, Silk Winding Machine Operator*

**51-6091 Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers**

Set up, operate, or tend machines that extrude and form continuous filaments from synthetic materials, such as liquid polymer, rayon, and fiberglass.

*Illustrative examples: Fiber Machine Tender, Synthetic Filament Extruder*

### **51-6092 Fabric and Apparel Patternmakers**

Draw and construct sets of precision master fabric patterns or layouts. May also mark and cut fabrics and apparel.

*Illustrative examples: Clothing Patternmaker, Embroidery Patternmaker, Fabric Pattern Grader*

### **51-6093 Upholsterers**

Make, repair, or replace upholstery for household furniture or transportation vehicles.

*Illustrative examples: Aircraft Seat Upholsterer, Furniture Upholsterer*

### **51-6099 Textile, Apparel, and Furnishings Workers, All Other**

All textile, apparel, and furnishings workers not listed separately.

*Illustrative examples: Apparel Embroidery Digitizer, Feltmaker, Hat Blocking Machine Operator*

### **51-7011 Cabinetmakers and Bench Carpenters**

Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products. Excludes "Woodworking Machine Setters, Operators, and Tenders" (51-7040).

*Illustrative examples: Cabinet Builder, Marquetry Worker, Wood Furniture Assembler*

### **51-7021 Furniture Finishers**

Shape, finish, and refinish damaged, worn, or used furniture or new high-grade furniture to specified color or finish.

*Illustrative examples: Furniture Sander, Piano Refinisher, Wood Cabinet Finisher*

### **51-7031 Model Makers, Wood**

Construct full-size and scale wooden precision models of products. Includes wood jig builders and loft workers.

*Illustrative example: Architectural Wood Model Maker*

### **51-7032 Patternmakers, Wood**

Plan, lay out, and construct wooden unit or sectional patterns used in forming sand molds for castings.

*Illustrative example: Wood Die Maker*

### **51-7041 Sawing Machine Setters, Operators, and Tenders, Wood**

Set up, operate, or tend wood sawing machines. May operate CNC equipment. Includes lead sawyers.

*Illustrative examples: Buzzsaw Operator, Circle Saw Operator, Rip Saw Operator, Trim Saw Operator*

### **51-7042 Woodworking Machine Setters, Operators, and Tenders, Except Sawing**

Set up, operate, or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood nailing machines. May operate CNC equipment.

*Illustrative examples: Wood Dowel Machine Operator, Wood Lathe Operator, Wood Planer*

### **51-7099 Woodworkers, All Other**

All woodworkers not listed separately.

*Illustrative examples: Pole Framer, Wood Carver, Wood Casket Assembler*

### **51-8011 Nuclear Power Reactor Operators**

Operate or control nuclear reactors. Move control rods, start and stop equipment, monitor and adjust controls, and record data in logs. Implement emergency procedures when needed. May respond to abnormalities, determine cause, and recommend corrective action.

*Illustrative examples: Nuclear Control Room Operator, Nuclear Reactor Operator, Nuclear Station Operator*

### **51-8012 Power Distributors and Dispatchers**

Coordinate, regulate, or distribute electricity or steam.

*Illustrative examples: Steam Plant Control Room Operator, Substation Operator*

### **51-8013 Power Plant Operators**

Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators. Excludes "Nuclear Power Reactor Operators" (51-8011).

*Illustrative examples: Hydroelectric Plant Operator, Powerhouse Operator*

### **51-8021 Stationary Engineers and Boiler Operators**

Operate or maintain stationary engines, boilers, or other mechanical equipment to provide utilities for buildings or industrial processes. Operate equipment, such as steam engines, generators, motors, turbines, and steam boilers.

*Illustrative examples: Boiler Engineer; Boiler Room Operator; Heating, Ventilation, and Air Conditioning (HVAC) Mechanic Boiler Operator*

### **51-8031 Water and Wastewater Treatment Plant and System Operators**

Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or wastewater.

*Illustrative examples: Liquid Waste Treatment Plant Operator, Sewage Plant Operator*

### **51-8091 Chemical Plant and System Operators**

Control or operate entire chemical processes or system of machines.

*Illustrative examples: Nitric Acid Plant Operator, Pharmaceutical Manufacturing Machine Operator*

### **51-8092 Gas Plant Operators**

Distribute or process gas for utility companies and others by controlling compressors to maintain specified pressures on main pipelines.

*Illustrative examples: Gas Controller, Gas Plant Dispatcher*

### **51-8093 Petroleum Pump System Operators, Refinery Operators, and Gaugers**

Operate or control petroleum refining or processing units. May specialize in controlling manifold and pumping systems, gauging or testing oil in storage tanks, or regulating the flow of oil into pipelines.

*Illustrative examples: Hydrotreater Operator, Oil Pipeline Operator, Oil Refiner*

### **51-8099 Plant and System Operators, All Other**

All plant and system operators not listed separately.

*Illustrative examples: Asphalt Plant Operator, Concrete Batch Plant Operator, Lime Filter Operator*

### **51-9011 Chemical Equipment Operators and Tenders**

Operate or tend equipment to control chemical changes or reactions in the processing of industrial or consumer products. Equipment used includes devulcanizers, steam-jacketed kettles, and reactor vessels. Excludes "Chemical Plant and System Operators" (51-8091).

*Illustrative examples: Acid Purification Equipment Operator, Chemical Process Equipment Operator*

### **51-9012 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders**

Set up, operate, or tend continuous flow or vat-type equipment; filter presses; shaker screens; centrifuges; condenser tubes; precipitating, fermenting, or evaporating tanks; scrubbing towers; or batch stills. These machines extract, sort, or separate liquids, gases, or solids from other materials to recover a refined product. Includes dairy processing equipment operators. Excludes "Chemical Equipment Operators and Tenders" (51-9011).

*Illustrative examples: Brewmaster, Fermentation Operator, Pasteurizer*

### **51-9021 Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders**

Set up, operate, or tend machines to crush, grind, or polish materials, such as coal, glass, grain, stone, food, or rubber.

*Illustrative examples: Beveling and Edging Machine Operator, Industrial Coffee Grinder, Marble and Granite Polisher, Pulverizer Operator*

### **51-9022 Grinding and Polishing Workers, Hand**

Grind, sand, or polish, using hand tools or hand-held power tools, a variety of metal, wood, stone, clay, plastic, or glass objects. Includes chippers, buffers, and finishers.

*Illustrative examples: Hand Buffer, Hand Sander, Jewelry Polisher, Knife Grinder*

### **51-9023 Mixing and Blending Machine Setters, Operators, and Tenders**

Set up, operate, or tend machines to mix or blend materials, such as chemicals, tobacco, liquids, color pigments, or explosive ingredients. Excludes "Food Batchmakers" (51-3092).

*Illustrative examples: Asphalt Blender, Clay Mixer, Ink Blender*

### **51-9031 Cutters and Trimmers, Hand**

Use hand tools or hand-held power tools to cut and trim a variety of manufactured items, such as carpet, fabric, stone, glass, or rubber.

*Illustrative examples: Fur Trimmer, Hand Cloth Cutter*

### **51-9032 Cutting and Slicing Machine Setters, Operators, and Tenders**

Set up, operate, or tend machines that cut or slice materials, such as glass, stone, cork, rubber, tobacco, food, paper, or insulating material. Excludes "Woodworking Machine Setters, Operators, and Tenders" (51-7040), "Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic" (51-4031), and "Textile Cutting Machine Setters, Operators, and Tenders" (51-6062).

*Illustrative examples: Glass Cutting Machine Operator, Insulation Cutter, Rubber Trimmer*

**51-9041 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders**

Set up, operate, or tend machines, such as glass forming machines, plodder machines, and tuber machines, to shape and form products, such as glassware, food, rubber, soap, brick, tile, clay, wax, tobacco, or cosmetics. Excludes "Paper Goods Machine Setters, Operators, and Tenders" (51-9196) and "Shoe Machine Operators and Tenders" (51-6042).

*Illustrative examples: Brick Maker, Rubber Extrusion Operator, Sugar Presser*

**51-9051 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders**

Operate or tend heating equipment other than basic metal, plastic, or food processing equipment. Includes activities, such as annealing glass, drying lumber, curing rubber, removing moisture from materials, or boiling soap.

*Illustrative examples: Lime Kiln Operator, Lumber Kiln Operator, Rubber Curer*

**51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers**

Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment. *Illustrative examples: Machined Parts Quality Inspector*

**51-9071 Jewelers and Precious Stone and Metal Workers**

Design, fabricate, adjust, repair, or appraise jewelry, gold, silver, other precious metals, or gems. Includes diamond polishers and gem cutters, and persons who perform precision casting and modeling of molds, casting metal in molds, or setting precious and semi-precious stones for jewelry and related products.

*Illustrative examples: Diamond Setter, Gemologist, Goldsmith*

**51-9081 Dental Laboratory Technicians**

Construct and repair full or partial dentures or dental appliances. Excludes "Dental Assistants" (31-9091). *Illustrative examples: Crown and Bridge Technician, Dental Ceramist, Orthodontic Technician*

**51-9082 Medical Appliance Technicians**

Construct, fit, maintain, or repair medical supportive devices, such as braces, orthotics and prosthetic devices, joints, arch supports, and other surgical and medical appliances. *Illustrative examples: Brace Maker, Orthotics Technician, Prosthetics Technician*

**51-9083 Ophthalmic Laboratory Technicians**

Cut, grind, and polish eyeglasses, contact lenses, or other precision optical elements. Assemble and mount lenses into frames or process other optical elements. Includes precision lens polishers or grinders, centerer-edgers, and lens mounters. Excludes "Opticians, Dispensing" (29-2081).

*Illustrative examples: Eyeglass Maker, Lens Grinder, Precision Lens Centerer and Edger*

**51-9111 Packaging and Filling Machine Operators and Tenders**

Operate or tend machines to prepare industrial or consumer products for storage or shipment. Includes cannery workers who pack food products.

*Illustrative examples: Bottle Capper, Keg Filler, Potato Chip Packaging Machine Operator*

### **51-9121 Coating, Painting, and Spraying Machine Setters, Operators, and Tenders**

Set up, operate, or tend machines to coat or paint any of a wide variety of products, including glassware, cloth, ceramics, metal, plastic, paper, or wood, with lacquer, silver, copper, rubber, varnish, glaze, enamel, oil, or rust-proofing materials. Excludes "Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic" (51-4193) and "Painters, Transportation Equipment" (51-9122).

*Illustrative examples: Electrostatic Paint Operator, Lacquer Spray Booth Operator*

### **51-9122 Painters, Transportation Equipment**

Operate or tend painting machines to paint surfaces of transportation equipment, such as automobiles, buses, trucks, trains, boats, and airplanes. Includes painters in auto body repair facilities.

*Illustrative examples: Aircraft Painter, Auto Painter, Railroad Car Painter*

### **51-9123 Painting, Coating, and Decorating Workers**

Paint, coat, or decorate articles such as furniture, glass, plateware, pottery, jewelry, toys, books, or leather. Excludes "Artists and Related Workers" (27-1010), "Designers" (27-1020), "Photographic Process Workers and Processing Machine Operators" (51-9151), and "Etchers and Engravers" (51-9194).

*Illustrative examples: Ceramic Painter, China Decorator, Sign Painter*

### **51-9141 Semiconductor Processors**

Perform any or all of the following functions in the manufacture of electronic semiconductors: load semiconductor material into furnace; saw formed ingots into segments; load individual segment into crystal growing chamber and monitor controls; locate crystal axis in ingot using x-ray equipment and saw ingots into wafers; and clean, polish, and load wafers into series of special purpose furnaces, chemical baths, and equipment used to form circuitry and change conductive properties.

*Illustrative examples: Electronic Semiconductor Processor, Semiconductor Assembler, Wafer Fabricator*

### **51-9151 Photographic Process Workers and Processing Machine Operators**

Perform work involved in developing and processing photographic images from film or digital media. May perform precision tasks such as editing photographic negatives and prints.

*Illustrative examples: Digital Photo Printer, Photo Lab Specialist, Photo Retoucher*

### **51-9191 Adhesive Bonding Machine Operators and Tenders**

Operate or tend bonding machines that use adhesives to join items for further processing or to form a completed product. Processes include joining veneer sheets into plywood; gluing paper; or joining rubber and rubberized fabric parts, plastic, simulated leather, or other materials. Excludes "Shoe Machine Operators and Tenders" (51-6042).

*Illustrative examples: Glue Line Operator, Glue Reel Operator, Paper Gluing Operator*

### **51-9192 Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders**

Operate or tend machines to wash or clean products, such as barrels or kegs, glass items, tin plate, food, pulp, coal, plastic, or rubber, to remove impurities.

*Illustrative examples: Acid Dipper, Degreaser Operator, Immersion Metal Cleaner*

**51-9193 Cooling and Freezing Equipment Operators and Tenders**

Operate or tend equipment, such as cooling and freezing units, refrigerators, batch freezers, and freezing tunnels, to cool or freeze products, food, blood plasma, and chemicals.

*Illustrative examples: Chiller Tender, Refrigerating Machine Operator*

**51-9194 Etchers and Engravers**

Engrave or etch metal, wood, rubber, or other materials. Includes such workers as etcher-circuit processors, pantograph engravers, and silk screen etchers.

Photoengravers are included in "Prepress Technicians and Workers" (51-5111).

*Illustrative examples: Glass Etcher, Metal Engraver*

**51-9195 Molders, Shapers, and Casters, Except Metal and Plastic**

Mold, shape, form, cast, or carve products such as food products, figurines, tile, pipes, and candles consisting of clay, glass, plaster, concrete, stone, or combinations of materials.

*Illustrative examples: Cigar Roller, Glass Blower, Neon Tube Bender*

**51-9196 Paper Goods Machine Setters, Operators, and Tenders**

Set up, operate, or tend paper goods machines that perform a variety of functions, such as converting, sawing, corrugating, banding, wrapping, boxing, stitching, forming, or sealing paper or paperboard sheets into products.

*Illustrative examples: Box Fabricator, Carton Making Machine Operator, Corrugator Operator*

**51-9197 Tire Builders**

Operate machines to build tires.

*Illustrative examples: Auto Tire Recapper, Tire Builder, Tire Molder*

**51-9198 Helpers—Production Workers**

Help production workers by performing duties requiring less skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment.

Apprentice workers are classified in the appropriate production occupations (51-0000).

*Illustrative examples: Blending Tank Helper, Commercial Baker Helper, Welder Helper*

**51-9199 Production Workers, All Other**

All production workers not listed separately.

**BLANK PAGE**

## **53-0000 – TRANSPORTATION & MATERIAL MOVING OCCUPATIONS**

### **53-1011 Aircraft Cargo Handling Supervisors**

Supervise and coordinate the activities of ground crew in the loading, unloading, securing, and staging of aircraft cargo or baggage. May determine the quantity and orientation of cargo and compute aircraft center of gravity. May accompany aircraft as member of flight crew and monitor and handle cargo in flight, and assist and brief passengers on safety and emergency procedures. Includes loadmasters.

*Illustrative examples: Air Cargo Ground Crew Supervisor, Air Cargo Ground Operations Supervisor, Airport Ramp Supervisor*

### **53-1021 First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand**

Directly supervise and coordinate the activities of helpers, laborers, or material movers.

*Illustrative examples: Material Handling Crew Supervisor, Warehouse Supervisor*

### **53-1031 First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators**

Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators and helpers.

*Illustrative examples: Dock Operations Supervisor, Gas Station Supervisor, Refuse Collector Supervisor*

### **53-2011 Airline Pilots, Copilots, and Flight Engineers**

Pilot and navigate the flight of fixed-wing, multi-engine aircraft, usually on scheduled air carrier routes, for the transport of passengers and cargo. Requires Federal Air Transport Pilot certificate and rating for specific aircraft type used. Includes regional, National, and international airline pilots and flight instructors of airline pilots.

*Illustrative examples: Airline Captain, Airline Pilot in Command, Charter Pilot (Air Transport Pilot Certificate Required), Charter Pilot (Airline)*

### **53-2012 Commercial Pilots**

Pilot and navigate the flight of fixed-winged aircraft on nonscheduled air carrier routes, or helicopters. Requires Commercial Pilot certificate. Includes charter pilots with similar certification, and air ambulance and air tour pilots. Excludes regional, National, and international airline pilots.

*Illustrative examples: Aerial Crop Duster, Charter Pilot (Commercial Pilot Certificate Required), Flight Instructor (Commercial Pilots), Helicopter Pilot*

### **53-2021 Air Traffic Controllers**

Control air traffic on and within vicinity of airport and movement of air traffic between altitude sectors and control centers according to established procedures and policies.

Authorize, regulate, and control commercial airline flights according to government or company regulations to expedite and ensure flight safety. *Illustrative examples: Air Traffic Control Operator, Control Tower Operator, Enroute Controller*

### **53-2022 Airfield Operations Specialists**

Ensure the safe takeoff and landing of commercial and military aircraft. Duties include coordination between air-traffic control and maintenance personnel; dispatching; using airfield landing and navigational aids; implementing airfield safety procedures; monitoring and maintaining flight records; and applying knowledge of weather information.

*Illustrative examples: Aviation Operations Specialist, Flight Operations Coordinator*

**53-2031 Flight Attendants**

Provide personal services to ensure the safety, security, and comfort of airline passengers during flight. Greet passengers, verify tickets, explain use of safety equipment, and serve food or beverages.

*Illustrative examples: Airline Flight Attendant, Airplane Flight Attendant*

**53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians**

Drive ambulance or assist ambulance driver in transporting sick, injured, or convalescent persons. Assist in lifting patients.

*Illustrative examples: Emergency Medical Services (EMS) Driver*

**53-3021 Bus Drivers, Transit and Intercity**

Drive bus or motor coach, including regular route operations, charters, and private carriage. May assist passengers with baggage. May collect fares or tickets.

*Illustrative examples: Motor Coach Bus Driver, Public Transit Bus Driver*

**53-3022 Bus Drivers, School or Special Client**

Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting.

*Illustrative examples: School Bus Operator, Special Education Bus Driver*

**53-3031 Driver/Sales Workers**

Drive truck or other vehicle over established routes or within an established territory and sell or deliver goods, such as food products, including restaurant take-out items, or pick up or deliver items such as commercial laundry. May also take orders, collect payment, or stock merchandise at point of delivery. Includes newspaper delivery drivers. Excludes "Coin, Vending, and Amusement Machine Servicers and Repairers" (49-9091) and "Light Truck or Delivery Services Drivers" (53-3033).

*Illustrative examples: Bakery Deliverer, Pizza Delivery Driver, Route Salesperson*

**53-3032 Heavy and Tractor-Trailer Truck Drivers**

Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). May be required to unload truck. Requires commercial drivers' license.

*Illustrative examples: Auto Carrier Driver, Cement Truck Driver, Moving Van Driver*

**53-3033 Light Truck or Delivery Services Drivers**

Drive a light vehicle, such as a truck or van, with a capacity of less than 26,000 pounds Gross Vehicle Weight (GVW), primarily to deliver or pick up merchandise or to deliver packages. May load and unload vehicle. Excludes "Couriers and Messengers" (43-5021) and "Driver/Sales Workers" (53-3031).

*Illustrative example: Pharmacy Delivery Driver*

**53-3041 Taxi Drivers and Chauffeurs**

Drive automobiles, vans, or limousines to transport passengers. May occasionally carry cargo. Includes hearse drivers. Excludes "Ambulance Drivers and Attendants, Except Emergency Medical Technicians" (53-3011) and "Bus Drivers" (53-3020).

*Illustrative examples: Cab Driver, Courtesy Van Driver, Limousine Driver*

**53-3099 Motor Vehicle Operators, All Other**

All motor vehicle operators not listed separately.

*Illustrative examples: Ice-Resurfacing Machine Operator, Motorcycle Deliverer, Street Cleaning Equipment Operator*

**53-4011 Locomotive Engineers**

Drive electric, diesel-electric, steam, or gas-turbine-electric locomotives to transport passengers or freight. Interpret train orders, electronic or manual signals, and railroad rules and regulations. *Illustrative examples: Railroad Engineer, Train Engineer*

**53-4012 Locomotive Firers**

Monitor locomotive instruments and watch for dragging equipment, obstacles on rights-of-way, and train signals during run. Watch for and relay traffic signals from yard workers to yard engineer in railroad yard.

*Illustrative examples: Diesel Locomotive Firer, Dinkey Engine Firer, Railroad Firer*

**53-4013 Rail Yard Engineers, Dinkey Operators, and Hostlers**

Drive switching or other locomotive or dinkey engines within railroad yard, industrial plant, quarry, construction project, or similar location.

*Illustrative examples: Coal Tram Driver, Railcar Switcher*

**53-4021 Railroad Brake, Signal, and Switch Operators**

Operate railroad track switches. Couple or uncouple rolling stock to make up or break up trains. Signal engineers by hand or flagging. May inspect couplings, air hoses, journal boxes, and hand brakes.

*Illustrative examples: Railway Switch Operator, Switch Coupler*

**53-4031 Railroad Conductors and Yardmasters**

Coordinate activities of switch-engine crew within railroad yard, industrial plant, or similar location. Conductors coordinate activities of train crew on passenger or freight trains. Yardmasters review train schedules and switching orders and coordinate activities of workers engaged in railroad traffic operations, such as the makeup or breakup of trains and yard switching.

*Illustrative examples: Freight Conductor, Yard Conductor*

**53-4041 Subway and Streetcar Operators**

Operate subway or elevated suburban trains with no separate locomotive, or electric-powered streetcar, to transport passengers. May handle fares.

*Illustrative examples: Light Rail Transit Operator, Tram Operator, Trolley Car Operator*

**53-4099 Rail Transportation Workers, All Other**

All rail transportation workers not listed separately.

*Illustrative examples: Railway Equipment Operator, Retarder Operator, Transfer Table Operator*

**53-5011 Sailors and Marine Oilers**

Stand watch to look for obstructions in path of vessel, measure water depth, turn wheel on bridge, or use emergency equipment as directed by captain, mate, or pilot. Break out, rig, overhaul, and store cargo-handling gear, stationary rigging, and running gear. Perform a variety of maintenance tasks to preserve the painted surface of the ship and to maintain line and ship equipment. Must hold government-issued certification and tankerman certification when working aboard liquid-carrying vessels. Includes able seamen and ordinary seamen.

*Illustrative examples: Deckhand, Merchant Mariner*

**53-5021 Captains, Mates, and Pilots of Water Vessels**

Command or supervise operations of ships and water vessels, such as tugboats and ferryboats. Required to hold license issued by U.S. Coast Guard. Excludes "Motorboat Operators" (53-5022).

*Illustrative examples: Barge Captain, First Mate, Harbor Pilot, Port Captain*

**53-5022 Motorboat Operators**

Operate small motor-driven boats. May assist in navigational activities.

*Illustrative examples: Launch Operator, Speedboat Operator, Water Taxi Operator*

**53-5031 Ship Engineers**

Supervise and coordinate activities of crew engaged in operating and maintaining engines, boilers, deck machinery, and electrical, sanitary, and refrigeration equipment aboard ship.

*Illustrative examples: Barge Engineer, Ferry Engineer, Tugboat Engineer*

**53-6011 Bridge and Lock Tenders**

Operate and tend bridges, canal locks, and lighthouses to permit marine passage on inland waterways, near shores, and at danger points in waterway passages. May supervise such operations. Includes drawbridge operators, lock operators, and slip bridge operators.

*Illustrative examples: Lighthouse Keeper, Lock and Dam Operator*

**53-6021 Parking Lot Attendants**

Park vehicles or issue tickets for customers in a parking lot or garage. May collect fee.

*Illustrative examples: Parking Ramp Attendant, Valet Parker*

**53-6031 Automotive and Watercraft Service Attendants**

Service automobiles, buses, trucks, boats, and other automotive or marine vehicles with fuel, lubricants, and accessories. Collect payment for services and supplies. May lubricate vehicle, change motor oil, install antifreeze, or replace lights or other accessories, such as windshield wiper blades or fan belts. May repair or replace tires.

*Illustrative examples: Gas and Oil Servicer, Gas Pump Attendant, Service Station Attendant*

**53-6041 Traffic Technicians**

Conduct field studies to determine traffic volume, speed, effectiveness of signals, adequacy of lighting, and other factors influencing traffic conditions, under direction of traffic engineer.

*Illustrative examples: Highway Traffic Control Technician, Traffic Signal Technician, Transportation Technician*

**53-6051 Transportation Inspectors**

Inspect equipment or goods in connection with the safe transport of cargo or people. Includes rail transportation inspectors, such as freight inspectors; rail inspectors; and other inspectors of transportation vehicles, not elsewhere classified. Excludes "Transportation Security Screeners" (33-9093).

*Illustrative examples: Aircraft Inspector, Motor Vehicle Emissions Inspector, Railroad Car Inspector*

**53-6061 Transportation Attendants, Except Flight Attendants**

Provide services to ensure the safety and comfort of passengers aboard ships, buses, trains, or within the station or terminal. Perform duties such as greeting passengers, explaining the use of safety equipment, serving meals or beverages, or answering questions related to travel. Excludes "Baggage Porters and Bellhops" (39-6011).

*Illustrative examples: Ship Steward, Train Attendant*

**53-6099 Transportation Workers, All Other**

All transportation workers not listed separately.

*Illustrative examples: Airplane Refueler, Rickshaw Driver*

**53-7011 Conveyor Operators and Tenders**

Control or tend conveyors or conveyor systems that move materials or products to and from stockpiles, processing stations, departments, or vehicles. May control speed and routing of materials or products.

*Illustrative examples: Conveyor Belt Operator, Grain Elevator Operator*

**53-7021 Crane and Tower Operators**

Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions. Excludes "Excavating and Loading Machine and Dragline Operators" (53-7032).

*Illustrative examples: Boom Crane Operator, Cherry Picker Operator, Coal Tower Operator*

**53-7031 Dredge Operators**

Operate dredge to remove sand, gravel, or other materials in order to excavate and maintain navigable channels in waterways. *Illustrative example: Dredger*

**53-7032 Excavating and Loading Machine and Dragline Operators**

Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials. Excludes "Dredge Operators" (53-7031).

*Illustrative examples: Backhoe Operator, Payloader Operator, Shovel Operator*

**53-7033 Loading Machine Operators, Underground Mining**

Operate underground loading machine to load coal, ore, or rock into shuttle or mine car or onto conveyors. Loading equipment may include power shovels, hoisting engines equipped with cable-drawn scraper or scoop, or machines equipped with gathering arms and conveyor.

*Illustrative example: Coke Loader*

**53-7041 Hoist and Winch Operators**

Operate or tend hoists or winches to lift and pull loads using power-operated cable equipment. Excludes "Crane and Tower Operators" (53-7021).

*Illustrative example: Winch Derrick Operator*

**53-7051 Industrial Truck and Tractor Operators**

Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location. Excludes "Logging Equipment Operators" (45-4022).

*Illustrative examples: Forklift Operator, Stacker Operator*

**53-7061 Cleaners of Vehicles and Equipment**

Wash or otherwise clean vehicles, machinery, and other equipment. Use such materials as water, cleaning agents, brushes, cloths, and hoses. Excludes "Janitors and Cleaners, Except Maids and Housekeeping Cleaners" (37-2011).

*Illustrative examples: Aircraft Cleaner, Auto Detailer, Car Wash Attendant*

**53-7062 Laborers and Freight, Stock, and Material Movers, Hand**

Manually move freight, stock, or other materials or perform other general labor. Includes all manual laborers not elsewhere classified. Excludes "Material Moving Workers" (53-7011 through 53-7199) who use power equipment. Excludes "Construction Laborers" (47-2061) and "Helpers, Construction Trades" (47-3011 through 47-3019).

*Illustrative examples: Cargo Handler, Wharf Laborer*

**53-7063 Machine Feeders and Offbearers**

Feed materials into or remove materials from machines or equipment that is automatic or tended by other workers.

*Illustrative examples: Hopper Filler, Spinning Doffer*

**53-7064 Packers and Packagers, Hand**

Pack or package by hand a wide variety of products and materials.

*Illustrative examples: Egg Packer, Gift Wrapper, Grocery Store Bagger*

**53-7071 Gas Compressor and Gas Pumping Station Operators**

Operate steam, gas, electric motor, or internal combustion engine driven compressors. Transmit, compress, or recover gases, such as butane, nitrogen, hydrogen, and natural gas.

*Illustrative examples: Butane Compressor Operator, Gas Cylinder Processor, Liquid Natural Gas Plant Operator*

**53-7072 Pump Operators, Except Wellhead Pumps**

Tend, control, or operate power-driven, stationary, or portable pumps and manifold systems to transfer gases, oil, other liquids, slurries, or powdered materials to and from various vessels and processes.

*Illustrative examples: Brewery Pumper, Fluid Pump Operator*

**53-7073 Wellhead Pumps**

Operate power pumps and auxiliary equipment to produce flow of oil or gas from wells in oil field.

*Illustrative example: Oil Well Pumper*

**53-7081 Refuse and Recyclable Material Collectors**

Collect and dump refuse or recyclable materials from containers into truck. May drive truck.

*Illustrative examples: Garbage Collector, Recyclable Materials Collector, Trash Collector*

**53-7111 Mine Shuttle Car Operators**

Operate diesel or electric-powered shuttle car in underground mine to transport materials from working face to mine cars or conveyor.

*Illustrative example: Coal Hauler Operator*

**53-7121 Tank Car, Truck, and Ship Loaders**

Load and unload chemicals and bulk solids, such as coal, sand, and grain into or from tank cars, trucks, or ships using material moving equipment. May perform a variety of other tasks relating to shipment of products. May gauge or sample shipping tanks and test them for leaks.

*Illustrative examples: Barge Loader, Rail Car Loader, Ship Unloader*

**53-7199 Material Moving Workers, All Other**

All material moving workers not listed separately.

*Illustrative example: Freight Elevator Operator*