

2018
Occupational
Employment and
Wage Statistics
(OEWS)
Dictionary

For use with 2021 Occupational Employment and Wage Statistics estimates

11-0000 Management Occupations

11-1000 Top Executives

11-1010 Chief Executives

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: Admiral, Chief Financial Officer, Chief Operating Officer, Governor, School Superintendent, University President

11-1020 General and Operations Managers

11-1021 General and Operations Managers

Plan, direct, or coordinate the operations of public or private sector organizations, overseeing multiple departments or locations. 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. Usually manage through subordinate supervisors. Excludes First-Line Supervisors.

Illustrative examples: Department Store Manager, General Superintendent, Operational Risk Manager, Radio Station Manager

11-1030 Legislators

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

11-2000 Advertising, Marketing, Promotions, Public Relations, and Sales Managers

11-2010 Advertising and Promotions Managers

11-2011 Advertising and Promotions Managers

Plan, direct, or coordinate advertising policies and programs or produce collateral materials, such as posters, contests, coupons, or giveaways, 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

11-2020 Marketing and Sales Managers

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

11-2030 Public Relations and Fundraising Managers

11-2032 Public Relations Managers

Plan, direct, or coordinate activities designed to create or maintain a favorable public image or raise issue awareness for their organization or client.

Illustrative examples: Public Affairs Director, Publicity Director

11-2033 Fundraising Managers

Plan, direct, or coordinate activities to solicit and maintain funds for special projects or nonprofit organizations.

Illustrative examples: Donor Relations Manager, Foundation Director, Funding Coordinator, Fundraising Director

11-3000 Operations Specialties Managers

11-3010 Administrative Services and Facilities Managers

11-3012 Administrative Services Managers

Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, and other office support services. Medical records administrators are included in "Medical and Health Services Managers" (11-9111). Excludes "Facilities Managers" (11-3013) and "Purchasing Managers" (11-3061).

Illustrative examples: Records and Information Manager, Records Management Director, University Registrar

11-3013 Facilities Managers

Plan, direct, or coordinate operations and functionalities of facilities and buildings. May include surrounding grounds or multiple facilities of an organization's campus. Excludes "Administrative Services Managers" (11-3012), "Property, Real Estate, and Community Association Managers" (11-9141), "First-Line Supervisors of Building and Grounds Cleaning and Maintenance Workers" (37-1010), "First-Line Supervisors of Mechanics and Repairers" (49-1011), and "Maintenance and Repair Workers, General" (49-9071).

Illustrative examples: Conference Center Manager, Director of University Housing, Stadium Manager

11-3020 Computer and Information Systems Managers

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" (15-1211 through 15-1299).

Illustrative examples: Chief Technology Officer, Information Technology Systems Director, Management Information Systems Director

11-3030 Financial Managers

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. Excludes "Financial Risk Specialists" (13-2054).

Illustrative examples: Bank Branch Manager, Comptroller, Financial Director

11-3050 Industrial Production Managers

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

11-3060 Purchasing Managers

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

11-3070 Transportation, Storage, and Distribution Managers

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

11-3110 Compensation and Benefits Managers

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 Resources Managers” (11-3121).

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

11-3120 Human Resources Managers

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

11-3130 Training and Development Managers

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

11-9000 Other Management Occupations

11-9010 Farmers, Ranchers, and Other Agricultural Managers

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

11-9020 Construction Managers

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

11-9030 Education and Childcare Administrators

11-9031 Education and Childcare Administrators, Preschool and Daycare

Plan, direct, or coordinate academic or nonacademic activities of preschools or childcare centers and programs, including before- and after-school care. Excludes "Preschool Teachers, Except Special Education" (25-2011) and "Childcare Workers" (39-9011).

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

11-9032 Education Administrators, Kindergarten through Secondary

Plan, direct, or coordinate the academic, administrative, or auxiliary activities of kindergarten, elementary, or secondary schools.

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

11-9033 Education Administrators, Postsecondary

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

Illustrative examples: Director of Student Services, Provost, University Dean, University Department Chair

11-9039 Education Administrators, All Other

All education administrators not listed separately.

11-9040 Architectural and Engineering Managers

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

11-9050 Food Service Managers

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

11-9070 Entertainment and Recreation Managers

11-9071 Gambling Managers

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

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

11-9072 Entertainment and Recreation Managers, Except Gambling

Plan, direct, or coordinate entertainment and recreational activities and operations of a recreational facility, including cruise ships and parks.

Illustrative examples: Amusement Park Manager, Fitness Club Manager, Marina Club Manager, Skating Rink Manager, Ski Resort Manager

11-9080 Lodging Managers

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

11-9110 Medical and Health Services Managers

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: Chief Medical Information Officer, Clinic Director, Clinical Informatics Director, Health Information Services Manager, Hospital Administrator, Medical Records Administrator, Mental Health Program Manager

11-9120 Natural Sciences Managers

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 “Computer and Information Systems Managers” (11-3021) and “Architecture and Engineering Managers” (11-9041).

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

11-9130 Postmasters and Mail Superintendents

11-9131 Postmasters and Mail Superintendents

Plan, direct, or coordinate operational, administrative, management, and support 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

11-9140 Property, Real Estate, and Community Association Managers

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

11-9150 Social and Community Service Managers

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

11-9160 Emergency Management Directors

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

11-9170 Personal Service Managers

11-9171 Funeral Home 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 Arrangers" (39-4031).

Illustrative examples: Funeral Home Director

11-9179 Personal Service Managers, All Other

All personal service managers not listed separately. Excludes “Financial Specialists” (13-2000). Daycare Managers are included in Education and Childcare Administrators, Preschool and Daycare (11-9031).

Illustrative examples: Day Spa Director, Nail Salon Manager, Travel Agency Manager

11-9190 Miscellaneous Managers

11-9199 Managers, All Other

All managers not listed separately.

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

**13-0000 Business and
Financial Operations
Occupations**

13-0000 Business and Financial Operations Occupations

13-1000 Business Operations Specialists

13-1010 Agents and Business Managers of Artists, Performers, and Athletes

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

13-1020 Buyers and Purchasing Agents (SOC broad occupation consisting of 13-1021, 13-1022, and 13-1023)

Purchase goods or services for further processing, resale, or to enable operation of an establishment. May analyze past buying trends, sales records, price, and quality of goods or services. May select, order, and authorize payment according to contractual agreements. May conduct meetings with sales personnel and introduce new products.

13-1021 Buyers and Purchasing Agents, Farm Products (Optional – estimates rolled up to 13-1020)

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

Illustrative examples: Cotton Broker, Fruit Buyer, Livestock Buyer

13-1022 Wholesale and Retail Buyers, Except Farm Products (Optional – estimates rolled up to 13-1020)

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. May negotiate contracts. Includes assistant wholesale and retail buyers of nonfarm products. Excludes "Procurement Clerks" (43-3061).

Illustrative examples: Gold Buyer, Merchandise Buyer

13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products (Optional – estimates rolled up to 13-1020)

Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semifinished materials for manufacturing. May negotiate contracts. 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

13-1030 Claims Adjusters, Appraisers, Examiners, and Investigators

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

13-1040 Compliance Officers

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" (19-5011), "Occupational Health and Safety Technicians" (19-5012), "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

13-1050 Cost Estimators

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

13-1070 Human Resources Workers

13-1071 Human Resources Specialists

Recruit, screen, interview, or place individuals within an organization. May perform other activities in multiple human resources areas. 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, Student Recruiter, Volunteer Coordinator

13-1074 Farm Labor Contractors

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

Illustrative examples: 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

13-1080 Logisticians and Project Management Specialists

13-1081 Logisticians

Analyze and coordinate the ongoing 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) and "Project Management Specialists" (13-1082).

Illustrative examples: Logistics Analyst, Logistics Planner, Logistics Specialist

13-1082 Project Management Specialists

Analyze and coordinate the schedule, timeline, procurement, staffing, and budget of a product or service on a per project basis. Lead and guide the work of technical staff. May serve as a point of contact for the client or customer. Excludes "Management Occupations" (11-0000), "Logisticians" (13-1081), "Meeting, Convention, and Event Planners" (13-1121), and "Production, Planning, and Expediting Clerks" (43-5061).

Illustrative examples: Design Project Management Specialists, Movie Project Management Specialists

13-1110 Management Analysts

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" (15-1211) and "Operations Research Analysts" (15-2031).

Illustrative examples: Business Management Analyst, Business Process Consultant, Industrial Analyst, University Institutional Researcher

13-1120 Meeting, Convention, and Event Planners

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

13-1130 Fundraisers

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

13-1140 Compensation, Benefits, and Job Analysis Specialists

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

13-1150 Training and Development Specialists

13-1151 Training and Development Specialists

Design or conduct work-related training and development programs to improve individual skills or organizational performance. May analyze organizational training needs or evaluate training effectiveness. Excludes "Career/Technical Education Teachers, Postsecondary" (25-1194) and "Other Teachers and Instructors" (25-3000). Flight instructors are included with "Aircraft Pilots and Flight Engineers" (53-2010).

Illustrative examples: Computer Software Training Specialist, Computer Training Specialist, Corporate Trainer, Insurance Employee Trainer

13-1160 Market Research Analysts and Marketing Specialists

13-1161 Market Research Analysts and Marketing Specialists

Research conditions in local, regional, national, or online markets. Gather information to determine potential sales of a product or service, or plan a marketing or advertising campaign. May gather information on competitors, prices, sales, and methods of marketing and distribution. May employ search marketing tactics, analyze web metrics, and develop recommendations to increase search engine ranking and visibility to target markets. Excludes "Web and Digital Interface Designers" (15-1255), "Art Directors" (27-1011), "Graphic Designers" (27-1024), and "Public Relations Specialists" (27-3031).

Illustrative examples: Advertising Analyst, Market Research Specialist, Marketing Consultant, Marketing Forecaster, Search Marketing Strategist

13-1190 Miscellaneous Business Operations Specialists

13-1199 Business Operations Specialists, All Other

All business operations specialists not listed separately.

Illustrative examples: Mystery Shopper, Ship Purser

13-2000 Financial Specialists

13-2010 Accountants and Auditors

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

13-2020 Property Appraisers and Assessors (SOC broad occupation consisting of 13-2022 and 13-2023)

Appraise and estimate the fair value of real estate, or tangible personal or business property, such as jewelry, art, antiques, collectibles, and equipment. May also appraise land or assess taxes in accordance with prescribed schedules. Excludes "Claims Adjusters, Examiners, and Investigators" (13-1031), "Insurance Appraisers, Auto Damage" (13-1032), and "Tax Examiners and Collectors, and Revenue Agents" (13-2081)

13-2022 Appraisers of Personal and Business Property (Optional – estimates rolled up to 13-2020)

Appraise and estimate the fair value of tangible personal or business property, such as jewelry, art, antiques, collectibles, and equipment. Includes workers who appraise both personal and business property as well as real estate. May also appraise land. Excludes "Claims Adjusters, Examiners, and Investigators" (13-1031), "Insurance Appraisers, Auto Damage" (13-1032), "Appraisers and Assessors of Real Estate" (13-2023), and "Tax Examiners and Collectors, and Revenue Agents" (13-2081).

Illustrative examples: Estate Appraiser, Machinery Appraiser, Personal Property Assessor

13-2023 Appraisers and Assessors of Real Estate (Optional – estimates rolled up to 13-2020)

Appraise real estate, exclusively, and estimate its fair value. May assess taxes in accordance with prescribed schedules. Excludes "Appraisers of Personal and Business Property" (13-2022).

Illustrative examples: Real Estate Appraiser, Real Estate Assessor

13-2030 Budget Analysts

13-2031 Budget Analysts

Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports. Excludes "Financial and Investment Analysts" (13-2051).

Illustrative examples: Budget Examiner, Budget Officer, Cost Analyst

13-2040 Credit Analysts

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 decisionmaking. Excludes "Financial Risk Specialists" (13-2054).

Illustrative examples: Credit Assessment Analyst, Credit Risk Analyst

13-2050 Financial Analysts and Advisors

13-2051 Financial and Investment Analysts

Conduct quantitative analyses of information involving investment programs or financial data of public or private institutions, including valuation of businesses. Excludes "Budget Analysts" (13-2031), "Financial Risk Specialists" (13-2054), and "Securities, Commodities, and Financial Services Sales Agents" (41-3031).

Illustrative examples: Corporate Financial Analyst, Corporate Securities Research Analyst, Institutional Commodity Analyst, Organizational Investment 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. May also buy and sell financial assets for clients. Excludes "Securities, Commodities, and Financial Services Sales Agents" (41-3031).

Illustrative examples: Estate Planner, Individual Pension Adviser, Personal Investment Adviser

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

13-2054 Financial Risk Specialists

Analyze and measure exposure to credit and market risk threatening the assets, earning capacity, or economic state of an organization. May make recommendations to limit risk. Excludes "Credit Analysts" (13-2041).

Illustrative examples: Financial Risk Analyst

13-2060 Financial Examiners

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

13-2070 Credit Counselors and Loan Officers

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 explain loan requirements or restrictions. May help develop debt management plans or student financial aid packages. May advise on credit issues, or provide budget, mortgage, bankruptcy, or student financial aid counseling.

Illustrative examples: Debt Management Counselor, Student Financial Aid Counselor, Student 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, loan underwriters, and payday loan officers.

Illustrative examples: Commercial Lender, Loan Reviewer, Payday Loan Officer, Real Estate Loan Officer

13-2080 Tax Examiners, Collectors and Preparers, and Revenue Agents

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

13-2090 Miscellaneous Financial Specialists

13-2099 Financial Specialists, All Other

All financial specialists not listed separately.

Illustrative examples: Bail Bondsman, Executor of Estate

**15-0000 Computer and
Mathematical
Occupations**

15-0000 Computer and Mathematical Occupations

15-1200 Computer Occupations

15-1210 Computer and Information Analysts

15-1211 Computer Systems Analysts

Analyze science, engineering, business, and other data processing problems to develop and implement solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions, improve existing computer systems, and review computer system capabilities, workflow, and schedule limitations. May analyze or recommend commercially available software.

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

15-1217 Computer Systems Analysts, Non R&D (use only in NAICS 6112 and 6113)

Analyze science, engineering, business, and other data processing problems to develop and implement solutions to complex applications problems, system administration issues, or network concerns. Perform systems management and integration functions, improve existing computer systems, and review computer system capabilities, workflow, and schedule limitations. May analyze or recommend commercially available software.

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

15-1218 Computer Systems Analysts, R&D (use only in NAICS 6112 and 6113)

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

15-1212 Information Security Analysts

Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. Assess system vulnerabilities for security risks and propose and implement risk mitigation strategies. 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" (15-1241).

Illustrative examples: Computer Security Specialist, IT Risk Specialist, Network Security Analyst

15-1220 Computer and Information Research Scientists

15-1221 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: Computational Theory Scientist, Control System Computer Scientist, Programming Methodology and Languages Researcher

15-1230 Computer Support Specialists

15-1231 Computer Network Support Specialists

Analyze, test, troubleshoot, and evaluate existing network systems, such as local area networks (LAN), wide area networks (WAN), cloud networks, servers, and other data communications networks. Perform network maintenance to ensure networks operate correctly with minimal interruption. Excludes “Computer Network Architects” (15-1241) and “Network and Computer Systems Administrators” (15-1244).

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

15-1232 Computer User Support Specialists

Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, 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” (15-1244).

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

15-1240 Database and Network Administrators and Architects

15-1241 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, including analysis of capacity needs for network infrastructures. May also design network and computer security measures. May research and recommend network and data communications hardware and software. Excludes “Information Security Analysts” (15-1212), “Computer Network Support Specialists” (15-1231), and “Network and Computer Systems Administrators” (15-1244).

Illustrative examples: Computer Network Engineer, Network Designer, Network Developer

15-1247 Computer Network Architects, Non R&D (use only in NAICS 6112 and 6113)

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, including analysis of capacity needs for network infrastructures. May also design network and computer security measures. May research and recommend network and data communications hardware and software. Excludes “Information Security Analysts” (15-1212), “Computer Network Support Specialists” (15-1231), and “Network and Computer Systems Administrators” (15-1244).

Illustrative examples: Computer Network Engineer, Network Designer, Network Developer

15-1248 Computer Network Architects, R&D (use only in NAICS 6112 and 6113)

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

15-1242 Database Administrators

Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. Identify, investigate, and resolve database performance issues, database capacity, and database scalability. May plan, coordinate, and implement security measures to safeguard computer databases. Excludes “Information Security Analysts” (15-1212) and “Database Architects” (15-1243).

Illustrative examples: Database Programmer, Database Security Administrator

15-1243 Database Architects

Design strategies for enterprise databases, data warehouse systems, and multidimensional networks. Set standards for database operations, programming, query processes, and security. Model, design, and construct large relational databases or data warehouses. Create and optimize data models for warehouse infrastructure and workflow. Integrate new systems with existing warehouse structure and refine system performance and functionality. Excludes “Database Administrators” (15-1242).

Illustrative examples: Data Architect, Data Integration Specialist, Data Warehousing Specialist, Database Developer

15-1244 Network and Computer Systems Administrators

Install, configure, and maintain an organization’s local area network (LAN), wide area network (WAN), data communications network, operating systems, and physical and virtual servers. Perform system monitoring and verify the integrity and availability of hardware, network, and server resources and systems. Review system and application logs and verify completion of scheduled jobs, including system backups. Analyze network and server resource consumption and control user access. Install and upgrade software and maintain software licenses. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software. Excludes “Information Security Analysts” (15-1212), “Computer Network Support Specialists” (15-1231), and “Computer User Support Specialists” (15-1232).

Illustrative examples: Network Analyst, Network Coordinator, Wide Area Network Administrator

15-1250 Software and Web Developers, Programmers, and Testers

15-1251 Computer Programmers

Create, modify, and test the code and scripts that allow computer applications to run. Work from specifications drawn up by software and web developers or other individuals. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

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

15-1293 Computer Programmers, Non R&D (use only in NAICS 6112 and 6113)

Create, modify, and test the code and scripts that allow computer applications to run. Work from specifications drawn up by software and web developers or other individuals. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

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

15-1294 Computer Programmers, R&D (use only in NAICS 6112 and 6113)

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

15-1252 Software Developers

Research, design, and develop computer and network software or specialized utility programs. Analyze user needs and develop software solutions, applying principles and techniques of computer science, engineering, and mathematical analysis. Update software or enhance existing software capabilities. May work with computer hardware engineers to integrate hardware and software systems, and develop specifications and performance requirements. May maintain databases within an application area, working individually or coordinating database development as part of a team.

Illustrative examples: Computer Applications Engineer, Computer Systems Engineer, Mobile Applications Developer, Software Applications Architect, Software Engineer, Systems Software Developer

15-1295 Software Developers, Non R&D (use only in NAICS 6112 and 6113)

Research, design, and develop computer and network software or specialized utility programs. Analyze user needs and develop software solutions, applying principles and techniques of computer science, engineering, and mathematical analysis. Update software or enhance existing software capabilities. May work with computer hardware engineers to integrate hardware and software systems, and develop specifications and performance requirements. May maintain databases within an application area, working individually or coordinating database development as part of a team.

Illustrative examples: Computer Applications Engineer, Computer Systems Engineer, Mobile Applications Developer, Software Applications Architect, Software Engineer, Systems Software Developer

15-1296 Software Developers, R&D (use only in NAICS 6112 and 6113)

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

15-1253 Software Quality Assurance Analysts and Testers

Develop and execute software tests to identify software problems and their causes. Test system modifications to prepare for implementation. Document software and application defects using a bug tracking system and report defects to software or web developers. Create and maintain databases of known defects. May participate in software design reviews to provide input on functional requirements, operational characteristics, product designs, and schedules.

Illustrative examples: Applications Tester, Software Quality Assurance Technician, Software Quality Control Specialist, Software Quality Engineer, Software Test Engineer

15-1297 Software Quality Assurance Analysts and Testers, Non R&D (use only in NAICS 6112 and 6113)

Develop and execute software tests to identify software problems and their causes. Test system modifications to prepare for implementation. Document software and application defects using a bug tracking system and report defects to software or web developers. Create and maintain databases of known defects. May participate in software design reviews to provide input on functional requirements, operational characteristics, product designs, and schedules.

Illustrative examples: Applications Tester, Software Quality Assurance Technician, Software Quality Control Specialist, Software Quality Engineer, Software Test Engineer

15-1298 Software Quality Assurance Analysts and Testers, R&D (use only in NAICS 6112 and 6113)

These persons spend the majority of their time performing research and development activities relating to their work as Software Quality Assurance Analysts and Testers.

15-1254 Web Developers

Develop and implement websites, web applications, application databases, and interactive web interfaces. Evaluate code to ensure that it is properly structured, meets industry standards, and is compatible with browsers and devices. Optimize website performance, scalability, and server-side code and processes. May develop website infrastructure and integrate websites with other computer applications. Excludes “Special Effects Artists and Animators” (27-1014).

Illustrative examples: Intranet Developer, Web Applications Developer, Web Architect

15-1255 Web and Digital Interface Designers

Design digital user interfaces or websites. Develop and test layouts, interfaces, functionality, and navigation menus to ensure compatibility and usability across browsers or devices. May use web framework applications as well as client-side code and processes. May evaluate web design following web and accessibility standards, and may analyze web use metrics and optimize websites for marketability and search engine ranking. May design and test interfaces that facilitate the human-computer interaction and maximize the usability of digital devices, websites, and software with a focus on aesthetics and design. May create graphics used in websites and manage website content and links. Excludes “Special Effects Artists and Animators” (27-1014) and “Graphic Designers” (27-1024).

Illustrative examples: Digital Designer, Graphic Web Designer, Web Content Specialist

15-1290 Miscellaneous Computer Occupations

15-1299 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), “Special Effects Artists and Animators” (27-1014), “Graphic Designers” (27-1024), “Health Information Technologists and Medical Registrars” (29-9021), and “Computer, Automated Teller, and Office Machine Repairers” (49-2011).

Illustrative examples: Computer Console Operator, Computer Laboratory Technician, Data Center Operator

15-2000 Mathematical Science Occupations

15-2010 Actuaries

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

15-2020 Mathematicians

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

15-2030 Operations Research Analysts

15-2031 Operations Research Analysts

Formulate and apply mathematical modeling and other optimizing methods to develop and interpret information that assists management with decisionmaking, policy formulation, or other managerial functions. May collect and analyze data and develop decision support software, services, 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

15-2040 Statisticians

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 biostatistics, 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

15-2050 Data Scientists

15-2051 Data Scientists

Develop and implement a set of techniques or analytics applications to transform raw data into meaningful information using data-oriented programming languages and visualization software. Apply data mining, data modeling, natural language processing, and machine learning to extract and analyze information from large structured and unstructured datasets. Visualize, interpret, and report data findings. May create dynamic data reports. Excludes "Statisticians" (15-2041), "Cartographers and Photogrammetrists" (17-1021), and "Health Information Technologists and Medical Registrars" (29-9021).

Illustrative examples: Business Intelligence Developer, Data Analytics Specialist, Data Mining Analyst, Data Visualization Developer

15-2090 Miscellaneous Mathematical Science Occupations

15-2099 Mathematical Science Occupations, All Other

All mathematical scientists not listed separately.

Illustrative examples: Harmonic Analyst, Mathematical Engineering Technician

**17-0000 Architecture
and Engineering
Occupations**

17-0000 Architecture and Engineering Occupations

17-1000 Architects, Surveyors, and Cartographers

17-1010 Architects, Except Naval

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

17-1020 Surveyors, Cartographers, and Photogrammetrists

17-1021 Cartographers and Photogrammetrists

Research, study, and prepare maps and other spatial data in digital or graphic form for one or more purposes, such as 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. May collect, analyze, and interpret geographic information provided by geodetic surveys, aerial photographs, and satellite data.

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

17-2000 Engineers

17-2010 Aerospace Engineers

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

17-2020 Agricultural Engineers

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

17-2030 Bioengineers and Biomedical Engineers

17-2031 Bioengineers and Biomedical Engineers

Apply knowledge of engineering, biology, chemistry, computer science, and biomechanical principles to the design, development, and evaluation of biological, agricultural, 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

17-2040 Chemical Engineers

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

17-2050 Civil Engineers

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, and geotechnical engineers. Excludes "Hydrologists" (19-2043).

Illustrative examples: Bridge Engineer, Construction Engineer, Highway Engineer

17-2052 Civil Engineers, Non-R&D (use only in NAICS 6112 and 6113)

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, and geotechnical engineers. Excludes "Hydrologists" (19-2043).

Illustrative examples: Bridge Engineer, Construction Engineer, Highway Engineer

17-2053 Civil Engineers, R&D (use only in NAICS 6112 and 6113)

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

17-2060 Computer Hardware 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” (15-1252) and “Web Developers” (15-1254).

Illustrative examples: Computer Hardware Designer, Computer Hardware Developer

17-2062 Computer Hardware Engineers, Non-R&D (use only in NAICS 6112 and 6113)

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” (15-1252) and “Web Developers” (15-1254).

Illustrative examples: Computer Hardware Designer, Computer Hardware Developer

17-2063 Computer Hardware Engineers, R&D (use only in NAICS 6112 and 6113)

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

17-2070 Electrical and Electronics 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 (use only in NAICS 6112 and 6113)

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

17-2074 Electrical Engineers, R&D (use only in NAICS 6112 and 6113)

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 (use only in NAICS 6112 and 6113)

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

17-2076 Electronics Engineers, Except Computer, R&D (use only in NAICS 6112 and 6113)

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).

17-2080 Environmental Engineers

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 Plant Engineer

17-2110 Industrial Engineers, Including Health and Safety

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

17-2120 Marine Engineers and Naval Architects

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

17-2130 Materials Engineers

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

17-2140 Mechanical Engineers

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 (use only in NAICS 6112 and 6113)

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

17-2144 Mechanical Engineers, R&D (use only in NAICS 6112 and 6113)

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

17-2150 Mining and Geological Engineers, Including Mining Safety Engineers

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

Conduct subsurface 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

17-2160 Nuclear Engineers

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

17-2170 Petroleum Engineers

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

17-2190 Miscellaneous Engineers

17-2199 Engineers, All Other

All engineers not listed separately. Excludes "Sales Engineers" (41-9031), "Locomotive Engineers" (53-4011), and "Ship Engineers" (53-5031).

Illustrative examples: Calibration Engineer, Metrologist, Optical Engineer, Ordnance Engineer, Photonics Engineer, Salvage Engineer

17-3000 Drafters, Engineering Technicians, and Mapping Technicians

17-3010 Drafters

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

17-3020 Engineering Technologists and Technicians, Except Drafters

17-3021 Aerospace Engineering and Operations Technologists and Technicians

Operate, install, adjust, 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 Technologists and 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 Technologists and Technicians

Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, adjust, 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 and Mechatronics Technologists and Technicians

Operate, test, maintain, or adjust unmanned, automated, servomechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment to observe or record visual information at sites such as oil rigs, crop fields, buildings, or for similar infrastructure, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.

Illustrative examples: Mechatronics Technician, Remotely Piloted Vehicle Engineering Technician, Robotics Testing Technician, Unmanned Air Systems Operator

17-3025 Environmental Engineering Technologists and 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 scientists. 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 Technologists and 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 Technologists and Technicians

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

Illustrative examples: Gyroscopic Engineering Technician, Heat Transfer Technician, Optomechanical Technician

17-3028 Calibration Technologists and Technicians

Execute or adapt procedures and techniques for calibrating measurement devices, by applying knowledge of measurement science, mathematics, physics, chemistry, and electronics, sometimes under the direction of engineering staff. Determine measurement standard suitability for calibrating measurement devices. May perform preventive maintenance on equipment. May perform corrective actions to address identified calibration problems. Excludes "Medical Equipment Preparers" (31-9093) and "Timing Device Assemblers and Adjusters" (51-2061).

Illustrative examples: Calibration Technician, Calibration Technologist, Hydrometer Calibrator

17-3029 Engineering Technologists and Technicians, Except Drafters, All Other

All engineering technologists and technicians, except drafters, not listed separately.

Illustrative examples: Agricultural Engineering Technician, Biomedical Engineering Technician, Metallurgical Engineering Technician, Optical Engineering Technician, Radar Technicians, Sonar Technicians

17-3030 Surveying and Mapping Technicians**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 "Cartographers and Photogrammetrists" (17-1021), "Surveyors" (17-1022), and "Geoscientists, Except Hydrologists and Geographers" (19-2042).

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

**19-0000 Life, Physical
and Social Science
Occupations**

19-0000 Life, Physical, and Social Science Occupations

19-1000 Life Scientists

19-1010 Agricultural and Food Scientists

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

19-1020 Biological Scientists

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

19-1030 Conservation Scientists and Foresters

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

19-1040 Medical Scientists

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, pharmacologists, and medical pathologists who primarily conduct research. Practitioners who primarily provide medical or dental care or dispense drugs are included in “Healthcare Diagnosing or Treating Practitioners” (29-1000).

Illustrative examples: Cancer Researcher, Immunochemist, Toxicologist

19-1090 Miscellaneous Life Scientists

19-1099 Life Scientists, All Other

All life scientists not listed separately.

Illustrative examples: Life Science Taxonomist

19-2000 Physical Scientists

19-2010 Astronomers and Physicists

19-2011 Astronomers

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

Illustrative examples: Astrophysicist, Cosmologist

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

19-2020 Atmospheric and Space Scientists

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

19-2030 Chemists and Materials Scientists

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 “Biochemists and Biophysicists” (19-1021) and “Geoscientists, Except Hydrologists and Geographers” (19-2042).

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

19-2040 Environmental Scientists and Geoscientists

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 public health. 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” (19-4071), “Occupational Health and Safety Specialists” (19-5011), “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, and oceans, and its magnetic, electrical, and gravitational forces. Includes mineralogists, 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 and its rate of infiltration into the soil, movement through the earth, and return to the ocean and atmosphere.

Illustrative examples: Hydrogeologist, Isotope Hydrologist, Surface Hydrologist

19-2090 Miscellaneous Physical Scientists

19-2099 Physical Scientists, All Other

All physical scientists not listed separately.

19-3000 Social Scientists and Related Workers

19-3010 Economists

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

19-3020 Survey Researchers

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

19-3030 Psychologists

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

19-3033 Clinical and Counseling Psychologists

Assess, diagnose, and treat mental and emotional disorders of individuals through observation, interview, and psychological tests. Help individuals with distress or maladjustment understand their problems through their knowledge of case history, interviews with patients, and theory. Provide individual or group counseling services to assist individuals in achieving more effective personal, social, educational, and vocational development and adjustment. May design behavior modification programs and consult with medical personnel regarding the best treatment for patients. Excludes "Psychiatrists" (29-1223).

Illustrative examples: Eating Disorder Psychologists, Geropsychologists

19-3034 School Psychologists

Diagnose and implement individual or schoolwide interventions or strategies to address educational, behavioral, or developmental issues that adversely impact educational functioning in a school. May address student learning and behavioral problems and counsel students or families. May design and implement performance plans, and evaluate performance. May consult with other school-based personnel.

Illustrative examples: Educational Psychologists

19-3039 Psychologists, All Other

All psychologists not listed separately.

Illustrative examples: Forensic Psychologist, Social Psychologist, Sports Psychologist

19-3040 Sociologists

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

19-3050 Urban and Regional Planners

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

19-3090 Miscellaneous Social Scientists and Related Workers

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: Ethnoarchaeologist, Political Anthropologist, Research Archaeologist

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 decisionmaking, 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

19-4000 Life, Physical, and Social Science Technicians

19-4010 Agricultural and Food Science Technicians

19-4012 Agricultural Technicians

Work with agricultural scientists in plant, fiber, and animal research, or assist with animal breeding and nutrition. Set up or maintain laboratory equipment and collect samples from crops or animals. Prepare specimens or record data to assist scientists in biology or related life science experiments. Conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects.

Illustrative examples: Feed Research Technician, Seed Analyst

19-4013 Food Science Technicians

Work with food scientists or technologists to perform standardized qualitative and quantitative tests to determine physical or chemical properties of food or beverage products. Includes technicians who assist in research and development of production technology, quality control, packaging, processing, and use of foods.

Illustrative examples: Flavor Technician, Food Quality Control Technician, Food Quality Technician

19-4020 Biological Technicians

19-4021 Biological Technicians

Assist biological and medical scientists. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, collect data and samples, 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

19-4030 Chemical Technicians

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

19-4040 Environmental Science and Geoscience Technicians

19-4042 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: Certified Indoor Environmentalist, Environmental Science Technician, Infectious Waste Technician, Pollution Control Technician

19-4043 Geological Technicians, Except Hydrologic Technicians

Assist scientists or engineers in the use of electronic, sonic, or nuclear measuring instruments in laboratory, exploration, and production activities to obtain data indicating 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.

Illustrative examples: Crude Tester, Geophysical Prospector, Seismic Observer

19-4044 Hydrologic Technicians

Collect and organize data concerning the distribution and circulation of ground and surface water, and data on its physical, chemical, and biological properties. Measure and report on flow rates and ground water levels, maintain field equipment, collect water samples, install and collect sampling equipment, and process samples for shipment to testing laboratories. May collect data on behalf of hydrologists, engineers, developers, government agencies, or agriculture. Excludes "Hydrologists" (19-2043).

Illustrative examples: Groundwater Monitoring Technician

19-4050 Nuclear Technicians

19-4051 Nuclear Technicians

Assist nuclear physicists, nuclear engineers, or other scientists in laboratory, power generation, or electricity 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

19-4060 Social Science Research Assistants

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 "Teaching Assistants, Postsecondary" (25-9044).

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

19-4070 Forest and Conservation Technicians

19-4071 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 and 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

19-4090 Miscellaneous Life, Physical, and Social Science Technicians

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

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

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

Illustrative examples: Meteorological Aide, Polygraph Examiner

19-5000 Occupational Health and Safety Specialists and Technicians

19-5010 Occupational Health and Safety Specialists and Technicians

19-5011 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.

Illustrative examples: Environmental Health Sanitarian, Health and Safety Inspector, Industrial Hygienist

19-5012 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)

**21-0000 Community
and Social Service
Occupations**

21-0000 Community and Social Service Occupations

21-1000 Counselors, Social Workers, and Other Community and Social Service Specialists

21-1010 Counselors

21-1012 Educational, Guidance, and Career Counselors and Advisors

Advise and assist students and provide educational and vocational guidance services.

Illustrative examples: Admissions Counselor, Career Counselor, Guidance Counselor, Student Services 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 "Psychologists" (19-3032 through 19-3039) and "Social Workers" (21-1020).

Illustrative examples: Child and Family Counselor, Couples Therapist, Marriage Counselor

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, aging, 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. Excludes "Occupational Therapists" (29-1122).

Illustrative examples: Psychosocial Rehabilitation Counselor, Veterans Rehabilitation Counselor, Vocational Rehabilitation Job Coach

21-1018 Substance abuse, behavioral disorder, and mental health counselors (OES-specific aggregation of SOC codes 21-1011 and 21-1014)

Counsel and advise individuals, families, or groups with substance abuse problems, behavioral disorders, or a broad range of mental health issues in order to promote optimum mental and emotional health. Counsel with an emphasis on prevention. Excludes "Psychologists" (19-3032 through 19-3039), "Social Workers" (21-1021 through 21-1029) and "Psychiatrists" (29-1066) providing these services.

21-1011 Substance Abuse and Behavioral Disorder Counselors (Optional – estimates rolled up to 21-1018)

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 "Psychologists" (19-3032 through 19-3039), "Mental Health Counselors" (21-1014), and "Social Workers" (21-1021 through 21-1029) providing these services.

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

21-1014 Mental Health Counselors (Optional – estimates rolled up to 21-1018)

Counsel and advise individuals and groups to promote optimum mental and emotional health, with an emphasis on prevention. May help individuals deal with a broad range of mental health issues, such as those associated with addictions and substance abuse; family, parenting, and marital problems; stress management; self-esteem; or aging. Excludes “Psychologists” (19-3030), “Social Workers” (21-1020), and “Psychiatrists” (29-1223).

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

21-1019 Counselors, All Other

All counselors not listed separately.

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

21-1020 Social Workers

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 caregivers. Provide patients with information and counseling, and make referrals for other services. May also provide case and care 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: Adult Protective Service Social Worker, Criminal Justice Social Worker, Forensic Social Worker, Sexual Assault Social Worker

21-1090 Miscellaneous Community and Social Service Specialists

21-1091 Health Education Specialists

Provide and manage health education programs that help individuals, families, and their communities maximize and maintain healthy lifestyles. Use data to identify community needs prior to planning, implementing, monitoring, and evaluating programs designed to encourage healthy lifestyles, policies, and environments. May link health systems, health providers, insurers, and patients to address individual and population health needs. May serve as resource to assist individuals, other health professionals, 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 other social and human service providers 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" (31-1122), and "Eligibility Interviewers, Government Programs" (43-4061).

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

21-1094 Community Health Workers

Promote health within a community by assisting individuals to adopt healthy behaviors. Serve as an advocate for the health needs of individuals by assisting community residents in effectively communicating with healthcare providers or social service agencies. Act as liaison or advocate and implement programs that promote, maintain, and improve individual and overall community health. May deliver health-related preventive services such as blood pressure, glaucoma, and hearing screenings. May collect data to help identify community health needs. Excludes "Health Education Specialists" (21-1091).

Illustrative examples: Lay Health Advocate, Peer Health Promoter, Promotor(a)

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

21-2000 Religious Workers

21-2010 Clergy

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

21-2020 Directors, Religious Activities and Education

21-2021 Directors, Religious Activities and Education

Coordinate or design programs and conduct outreach to promote the religious education or activities of a denominational group. May provide counseling, guidance, and leadership relative to marital, health, financial, and religious problems.

Illustrative examples: Religious Education Director, Youth Ministry Director

21-2090 Miscellaneous Religious Workers

21-2099 Religious Workers, All Other

All religious workers not listed separately.

Illustrative examples: Missionary, Mohel, Verger

23-0000 Legal Occupations

23-0000 Legal Occupations

23-1000 Lawyers, Judges, and Related Workers

23-1010 Lawyers and Judicial Law Clerks

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, Public Defender

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).

Illustrative examples: Judicial Clerk

23-1020 Judges, Magistrates, and Other Judicial Workers

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 examples: 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 examples: Circuit Court Judge, Justice, Tribal Judge

23-2000 Legal Support Workers

23-2010 Paralegals and Legal Assistants

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 and Administrative Assistants” (43-6012).

Illustrative examples: Legal Aide

23-2090 Miscellaneous Legal Support Workers

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. Excludes “Loan Officers” (13-2072).

Illustrative examples: Escrow Officer, Lien Searcher, Title Officer

23-2099 Legal Support Workers, All Other

All legal support workers not listed separately.

Illustrative examples: Legal Technician

**25-0000 Educational
Instruction and Library
Occupations**

25-0000 Educational Instruction and Library Occupations

25-1000 Postsecondary Teachers

25-1010 Business Teachers, Postsecondary

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

25-1020 Math and Computer Science Teachers, Postsecondary

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 examples: 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 Science Professor, Calculus Professor, Statistics Professor

25-1030 Engineering and Architecture Teachers, Postsecondary

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

25-1040 Life Sciences Teachers, Postsecondary

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

25-1050 Physical Sciences Teachers, Postsecondary

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 providing 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. Excludes “Forestry and Conservation Science Teachers, Postsecondary” (25- 1043).

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

25-1060 Social Sciences Teachers, Postsecondary

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 examples: 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

25-1070 Health Teachers, Postsecondary**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 "Biological Science Teachers, Postsecondary" (25-1042) and "Nursing Instructors and Teachers, Postsecondary" (25-1072) 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

25-1080 Education and Library Science Teachers, Postsecondary**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

25-1110 Law, Criminal Justice, and Social Work Teachers, Postsecondary

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

25-1120 Arts, Communications, History, and Humanities Teachers, Postsecondary

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

25-1190 Miscellaneous Postsecondary Teachers**25-1192 Family and Consumer Sciences 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, Family Resource Management Professor, Home Economics 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 Career/Technical Education Teachers, Postsecondary

Teach vocational courses intended to provide occupational training below the baccalaureate level in subjects such as construction, mechanics/repair, manufacturing, transportation, or cosmetology, primarily to students who have graduated from or left high school. Teaching takes place in public or private schools whose primary business is academic or vocational education. Excludes "Training and Development Specialists" (13-1151), "Adult Basic Education, Adult Secondary Education, and English as a Second Language Instructors" (25-3011), and postsecondary teachers classified elsewhere in the 25-1000 minor group. Flight instructors are included with "Aircraft Pilots and Flight Engineers" (53-2010).

Illustrative examples: Automotive Technology Instructor, Cosmetology Instructor, HVAC Instructor, Mechanical Maintenance Instructor

25-1199 Postsecondary Teachers, All Other

All postsecondary teachers not listed separately.

Illustrative examples: Military Science Instructor, Packaging Professor

25-2000 Preschool, Elementary, Middle, Secondary, and Special Education Teachers

25-2010 Preschool and Kindergarten Teachers

25-2011 Preschool Teachers, Except Special Education

Instruct preschool-aged students, following curricula or lesson plans, in activities designed to promote social, physical, and intellectual growth. Excludes “Special Education Teachers” (25-2050), “Substitute Teachers, Short-Term” (25-3031), and “Childcare Workers” (39-9011).

Illustrative examples: Home-based Preschool Teacher, Nursery School Teacher, Preschool Head Start Teacher

25-2012 Kindergarten Teachers, Except Special Education

Teach academic and social skills to kindergarten students. Excludes “Special Education Teachers” (25-2050) and “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: Bilingual Education Kindergarten Teacher

25-2020 Elementary and Middle School Teachers

25-2021 Elementary School Teachers, Except Special Education

Teach academic and social skills to students at the elementary school level. Excludes “Special Education Teachers” (25-2050) and “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: 4th Grade Math Teacher, Elementary School Music Teacher

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

Teach one or more subjects to students at the middle, intermediate, or junior high school level. Excludes “Career/Technical Education Teachers, Middle School” (25-2023), “Special Education Teachers” (25-2050), and “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: Intermediate School Social Studies Teacher, Junior High School Teacher, Middle School Science Teacher

25-2023 Career/Technical Education Teachers, Middle School

Teach occupational, vocational, career, or technical subjects to students at the middle, intermediate, or junior high school level. Excludes “Special Education Teachers” (25-2050) and “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: Junior High School Business Teacher, Middle School Technology Education Teacher

25-2030 Secondary School Teachers

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

Teach one or more subjects to students at the secondary school level. Excludes “Career/Technical Education Teachers, Secondary School” (25-2032), “Special Education Teachers” (25-2050), and “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: High School English Teacher, High School French Teacher, High School History Teacher

25-2032 Career/Technical Education Teachers, Secondary School

Teach occupational, vocational, career, or technical subjects to students at the secondary school level. Excludes “Special Education Teachers” (25-2050), and “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: High School Auto Repair Teacher, High School Cosmetology Teacher

25-2050 Special Education Teachers

25-2051 Special Education Teachers, Preschool

Teach academic, social, and life skills to preschool-aged students with learning, emotional, or physical disabilities. Includes teachers who specialize and work with students who are blind or have visual impairments; students who are deaf or have hearing impairments; and students with intellectual disabilities. Excludes “Substitute Teachers, Short-Term” (25-3031).

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

25-2052 Special Education Teachers, Kindergarten and Elementary School (OES-specific aggregation of SOC codes 25-2055 and 25-2056)

Teach academic, social, and life skills to elementary and kindergarten students with learning, emotional, or physical disabilities. Includes teachers who specialize and work with students who are blind or have visual impairments; students who are deaf or have hearing impairments; and students with intellectual disabilities. Excludes “Substitute Teachers, Short-Term” (25-3031).

25-2055 Special Education Teachers, Kindergarten (Optional – estimates rolled up to 25-2052)

Teach academic, social, and life skills to kindergarten students with learning, emotional, or physical disabilities. Includes teachers who specialize and work with students who are blind or have visual impairments; students who are deaf or have hearing impairments; and students with intellectual disabilities. Excludes “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: Kindergarten Special Education Teacher

25-2056 Special Education Teachers, Elementary School (Optional – estimates rolled up to 25-2052)

Teach academic, social, and life skills to elementary school students with learning, emotional, or physical disabilities. Includes teachers who specialize and work with students who are blind or have visual impairments; students who are deaf or have hearing impairments; and students with intellectual disabilities. Excludes “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: Elementary School Inclusion Teacher

25-2057 Special Education Teachers, Middle School

Teach academic, social, and life skills to middle school students with learning, emotional, or physical disabilities. Includes teachers who specialize and work with students who are blind or have visual impairments; students who are deaf or have hearing impairments; and students with intellectual disabilities. Excludes “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: Junior High School Special Education Teacher, Middle School Special Education Teacher

25-2058 Special Education Teachers, Secondary School

Teach academic, social, and life skills to secondary school students with learning, emotional, or physical disabilities. Includes teachers who specialize and work with students who are blind or have visual impairments; students who are deaf or have hearing impairments; and students with intellectual disabilities. Excludes “Substitute Teachers, Short-Term” (25-3031).

Illustrative examples: High School Special Education Resource Teacher

25-2059 Special Education Teachers, All Other

All special education teachers not listed separately.

Illustrative examples: Special Education Teacher for Adults with Disabilities

25-3000 Other Teachers and Instructors

25-3010 Adult Basic Education, Adult Secondary Education, and English as a Second Language Instructors

25-3011 Adult Basic Education, Adult Secondary Education, and English as a Second Language Instructors

Teach or instruct out-of-school youths and adults in basic education, literacy, or English as a Second Language classes, or in classes for earning a high school equivalency credential.

Illustrative examples: Adult Education Teacher, Adult English as a Second Language (ESL) Teacher, Adult Literacy Instructor, General Educational Development (GED®) Teacher

25-3020 Self-Enrichment Teachers

25-3021 Self-Enrichment Teachers

Teach or instruct individuals or groups for the primary purpose of self-enrichment or recreation, rather than for an occupational objective, educational attainment, competition, or fitness. Excludes “Coaches and Scouts” (27-2022) and “Exercise Trainers and Group Fitness Instructors” (39-9031). Flight instructors are included with “Aircraft Pilots and Flight Engineers” (53-2010).

Illustrative examples: Citizenship Teacher, Knitting Instructor, Recreational Activities Instructor

25-3030 Substitute Teachers, Short-Term

25-3031 Substitute Teachers, Short-Term

Teach students on a short-term basis as a temporary replacement for a regular classroom teacher, typically using the regular teacher's lesson plan. Excludes long-term substitute teachers who perform all the duties of a regular teacher; these teachers are coded within the 25-1000 or 25-2000 minor groups.

Illustrative examples: Elementary School Substitute Teacher, English Substitute Teacher

25-3040 Tutors

25-3041 Tutors

Instruct individual students or small groups of students in academic subjects to support formal class instruction or to prepare students for standardized or admissions tests. Excludes "Postsecondary Teachers" (25-1000), "Elementary, Middle, Secondary, and Special Education Teachers" (25-2000), "Adult Basic Education, Adult Secondary Education, and English as a Second Language Instructors" (25-3011), and "Self-Enrichment Teachers" (25-3021).

Illustrative examples: Algebra Tutor, Reading Tutor, Spanish Tutor, Standardized Test Tutor

25-3090 Miscellaneous Teachers and Instructors

25-3099 Teachers and Instructors, All Other

All teachers and instructors not listed separately.

Illustrative examples: Sunday School Teacher

25-4000 Librarians, Curators, and Archivists

25-4010 Archivists, Curators, and Museum Technicians

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

25-4020 Librarians and Media Collections Specialists

25-4022 Librarians and Media Collections Specialists

Administer and maintain libraries or collections of information, for public or private access through reference or borrowing. Work in a variety of settings, such as educational institutions, museums, and corporations, and with various types of informational materials, such as books, periodicals, recordings, films, and databases. Tasks may include acquiring, cataloging, and circulating library materials, and user services such as locating and organizing information, providing instruction on how to access information, and setting up and operating a library's media equipment.

Illustrative examples: Library Media Specialist, Multimedia Services Coordinator, Music Librarian, School Librarian

25-4030 Library Technicians

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

25-9000 Other Educational Instruction and Library Occupations

25-9020 Farm and Home Management Educators

25-9021 Farm and Home Management Educators

Instruct and advise individuals and families engaged in agriculture, agricultural-related processes, or home management activities. Demonstrate procedures and apply research findings to advance agricultural and home management activities. May develop educational outreach programs. May instruct on either agricultural issues such as agricultural processes and techniques, pest management, and food safety, or on home management issues such as budgeting, nutrition, and child development. Excludes "Dietitians and Nutritionists" (29-1031).

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

25-9030 Instructional Coordinators

25-9031 Instructional Coordinators

Develop instructional material, coordinate educational content, and incorporate current technology into instruction in order to provide guidelines to educators and instructors for developing curricula and conducting courses. May train and coach teachers. Includes educational consultants and specialists, and instructional material directors.

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

25-9040 Teaching Assistants

25-9042 Teaching Assistants, Preschool, Elementary, Middle, and Secondary School, Except Special Education

Assist a preschool, elementary, middle, or secondary school teacher with instructional duties. Serve in a position for which a teacher has primary responsibility for the design and implementation of educational programs and services. Excludes "Teaching Assistants, Special Education" (25-9043).

Illustrative examples: Elementary Learning Support Aide, Middle School Paraeducator

25-9043 Teaching Assistants, Special Education

Assist a preschool, elementary, middle, or secondary school teacher to provide academic, social, or life skills to students who have learning, emotional, or physical disabilities. Serve in a position for which a teacher has primary responsibility for the design and implementation of educational programs and services.

Illustrative examples: Special Education Classroom Aide

25-9044 Teaching Assistants, Postsecondary

Assist faculty or other instructional staff in postsecondary institutions by performing instructional support activities, such as developing teaching materials, leading discussion groups, preparing and giving examinations, and grading examinations or papers. Graduate students who teach one or more full courses should be classified in the 25-1000 minor group.

Illustrative examples: Assistant Instructor, College Biology Teaching Assistant, University Teaching Assistant

25-9049 Teaching Assistants, All Other

All teaching assistants not listed separately.

Illustrative examples: Adult ESL Teacher Aide, Adult Literacy Teaching Aide, Sunday School Teacher Aide

25-9090 Miscellaneous Educational Instruction and Library Workers

25-9099 Educational Instruction and Library Workers, All Other

All educational instruction and library workers not listed separately.

Illustrative examples: Aptitude Test (SAT) Grader, General Educational Development (GED®) Examiner

**27-0000 Arts, Design,
Entertainment, Sports,
and Media Occupations**

27-0000 Arts, Design, Entertainment, Sports, and Media Occupations

27-1000 Art and Design Workers

27-1010 Artists and Related Workers

27-1011 Art Directors

Formulate design concepts and presentation approaches for visual productions and media, such as print, broadcasting, video, and film. Direct workers engaged in artwork or layout design. Excludes “Set and Exhibit Designers” (27-1027).

Illustrative examples: Magazine Designer

27-1012 Craft Artists

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

Illustrative examples: Hand Potter, Metal Crafts 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 Special Effects Artists and Animators

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

Illustrative examples: 3D Animator, Special Effects Artist

27-1019 Artists and Related Workers, All Other

All artists and related workers not listed separately.

Illustrative examples: Calligrapher, Tattoo Artist

27-1020 Designers

27-1021 Commercial and Industrial Designers

Design and develop 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. Excludes "Web and Digital Interface Designers" (15-1255).

Illustrative examples: Graphic Artist, Visual Designer

27-1025 Interior Designers

Plan, design, and furnish the internal space of rooms or buildings. Design interior environments or create physical layouts that are practical, aesthetic, and conducive to the intended purposes. May specialize in a particular field, style, or phase of interior design. Excludes "Merchandise Displayers and Window Trimmers" (27-1026).

Illustrative examples: Home Lighting Adviser, 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 sets for film, video, television, and theater productions. 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 examples: Memorial Marker Designer

27-2000 Entertainers and Performers, Sports and Related Workers

27-2010 Actors, Producers, and Directors

27-2011 Actors

Play parts in stage, television, radio, video, or film 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 film 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

27-2020 Athletes, Coaches, Umpires, and Related Workers

27-2021 Athletes and Sports Competitors

Compete in athletic events.

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

27-2022 Coaches and Scouts

Instruct or coach groups or individuals in the fundamentals of sports for the primary purpose of competition. 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 certifications should be reported in the appropriate teaching category. Excludes "Athletic Trainers" (29-9091).

Illustrative examples: Baseball Scout, Boxing Coach, 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

27-2030 Dancers and Choreographers

27-2031 Dancers

Perform dances. May perform on stage, for 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

27-2040 Musicians, Singers, and Related Workers

27-2041 Music Directors and Composers

Conduct, direct, plan, and lead instrumental or vocal performances by musical artists or groups, such as orchestras, bands, choirs, and glee clubs; or create original works of music.

Illustrative examples: Choirmaster, Orchestra Conductor, Orchestrator, Songwriter

27-2042 Musicians and Singers

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

Illustrative examples: Instrumentalist, Oboist, Rapper

27-2090 Miscellaneous Entertainers and Performers, Sports and Related Workers

27-2091 Disc Jockeys, Except Radio

Play prerecorded music for live audiences at venues or events such as clubs, parties, or wedding receptions. May use techniques such as mixing, cutting, or sampling to manipulate recordings. May also perform as emcee (master of ceremonies). Radio disc jockeys are included in "Broadcast Announcers and Radio Disc Jockeys" (27-3011). Excludes "Musicians and Singers" (27-2042), "Audio and Video Technicians" (27-4011), and "Sound Engineering Technicians" (27-4014).

Illustrative examples: Club DJ, DeeJay, DJ

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, Professional Poker Player

27-3000 Media and Communication Workers

27-3010 Broadcast Announcers and Radio Disc Jockeys

27-3011 Broadcast Announcers and Radio Disc Jockeys

Speak or read from scripted materials, such as news reports or commercial messages, on radio, television, or other communications media. May play and queue music, announce artist or title of performance, identify station, or interview guests. Excludes "News Analysts, Reporters, and Journalists" (27-3023).

Illustrative examples: Game Show Host, Radio Disc Jockey, Talk Show Host

27-3020 News Analysts, Reporters, and Journalists

27-3023 News Analysts, Reporters, and Journalists

Narrate or write news stories, reviews, or commentary for print, broadcast, or other communications media such as newspapers, magazines, radio, or television. May collect and analyze information through interview, investigation, or observation.

Illustrative examples: Columnist, Correspondent, Film Critic, News Anchor

27-3030 Public Relations Specialists

27-3031 Public Relations Specialists

Promote or create an intended public image for individuals, groups, or organizations. May write or select material for release to various communications media. May specialize in using social media.

Illustrative examples: Lobbyist, Press Secretary, Publicity Writer

27-3040 Writers and Editors

27-3041 Editors

Plan, coordinate, revise, or edit written material. May review proposals and drafts for possible publication.

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, Specifications Writer

27-3043 Writers and Authors

Originate and prepare written material, such as scripts, stories, advertisements, and other material. Excludes "News Analysts, Reporters, and Journalists" (27-3023), "Public Relations Specialists" (27-3031), and "Technical Writers" (27-3042).

Illustrative examples: Advertising Copy Writer, Playwright, Television Writer

27-3090 Miscellaneous Media and Communication Workers

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

27-3092 Court Reporters and Simultaneous Captioners

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, Realtime Captioner

27-3099 Media and Communication Workers, All Other

All media and communication workers not listed separately.

Illustrative examples: Stage Technician

27-4000 Media and Communication Equipment Workers

27-4010 Broadcast, Sound, and Lighting Technicians

27-4011 Audio and Video Technicians

Set up, maintain, and dismantle audio and video equipment, such as microphones, sound speakers, connecting wires and cables, sound and mixing boards, video cameras, video monitors and servers, and related electronic equipment for live or recorded events, such as concerts, meetings, conventions, presentations, podcasts, news conferences, and sporting events. Excludes “Sound Engineering Technicians” (27-4014), “Lighting Technicians” (27-4015), and “Audiovisual Equipment Installers and Repairers” (49-2097).

Illustrative examples: Video Control Operator, Video Production Assistant

27-4012 Broadcast Technicians

Set up, operate, and maintain the electronic equipment used to acquire, edit, and transmit audio and video for radio or television programs. Control and adjust incoming and outgoing broadcast signals to regulate sound volume, signal strength, and signal clarity. Operate satellite, microwave, or other transmitter equipment to broadcast radio or television programs.

Illustrative examples: Broadcast Engineer

27-4014 Sound Engineering Technicians

Assemble and operate equipment to record, synchronize, mix, edit, or reproduce sound, including music, voices, or sound effects, for theater, video, film, television, podcasts, sporting events, and other productions. Excludes “Audio and Video Technicians” (27-4011).

Illustrative examples: Audio Recording Engineer, Sound Editor, Sound Effects Technician

27-4015 Lighting Technicians

Set up, maintain, and dismantle light fixtures, lighting control devices, and the associated lighting electrical and rigging equipment used for photography, television, film, video, and live productions. May focus or operate light fixtures, or attach color filters or other lighting accessories. Excludes “Audio and Video Technicians” (27-4011).

Illustrative examples: Gaffer, Lamp Operator

27-4020 Photographers

27-4021 Photographers

Photograph people, landscapes, merchandise, or other subjects. May use lighting equipment to enhance a subject’s appearance. May use editing software to produce finished images and prints. Includes commercial and industrial photographers, scientific photographers, and photojournalists. Excludes “Camera Operators, Television, Video, and Film” (27-4031).

Illustrative examples: Aerial Photographer, Medical Photographer, Portrait Photographer

27-4030 Television, Video, and Film Camera Operators and Editors

27-4031 Camera Operators, Television, Video, and Film

Operate television, video, or film camera to record images or scenes for television, video, or film productions.

Illustrative examples: News Videographer

27-4032 Film and Video Editors

Edit moving images on film, video, or other media. May work with a producer or director to organize images for final production. May edit or synchronize soundtracks with images. Excludes "Sound Engineering Technicians" (27-4014).

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

27-4090 Miscellaneous Media and Communication Equipment Workers

27-4099 Media and Communication Equipment Workers, All Other

All media and communication equipment workers not listed separately.

Illustrative examples: Satellite Communications Operator

**29-0000 Healthcare
Practitioners and
Technical Occupations**

29-0000 Healthcare Practitioners and Technical Occupations

29-1000 Healthcare Diagnosing or Treating Practitioners

29-1010 Chiropractors

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 examples: Chiropractic Physician

29-1020 Dentists

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 "Oral and Maxillofacial Surgeons" (29-1022), "Orthodontists" (29-1023), "Prosthodontists" (29-1024), and "Dentists, All Other Specialists" (29-1029).

Illustrative examples: 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 examples: 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 examples: Dentofacial Orthopedics Dentist, Invisible Braces Orthodontist, Pediatric Orthodontist

29-1024 Prosthodontists

Diagnose, treat, rehabilitate, design, and fit prostheses that maintain oral function, health, and appearance for patients with clinical conditions associated with teeth, oral and maxillofacial tissues, or the jaw.

Illustrative examples: Maxillofacial Prosthetics Dentist, Reconstructive Dentist

29-1029 Dentists, All Other Specialists

All dentists not listed separately.

Illustrative examples: Endodontist, Oral Pathologist, Periodontist

29-1030 Dietitians and Nutritionists

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 Dietician, Public Health Nutritionist

29-1040 Optometrists

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 "Ophthalmologists, Except Pediatric" (29-1241).

Illustrative examples: Doctor of Optometry

29-1050 Pharmacists

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

29-1070 Physician Assistants

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 "Registered Nurses" (29-1141), "Nurse Anesthetists" (29-1151), "Nurse Midwives" (29-1161), "Nurse Practitioners" (29-1171), "Emergency Medical Technicians" (29-2042), "Paramedics" (29-2043), "Surgical Assistants" (29-9093), and "Medical Assistants" (31-9092).

Illustrative examples: Anesthesiologist Assistant, Family Practice Physician Assistant

29-1080 Podiatrists

29-1081 Podiatrists

Diagnose and treat diseases and deformities of the human foot.

Illustrative examples: Chiropodist, Foot Doctor, Foot Orthopedist

29-1120 Therapists

29-1122 Occupational Therapists

Assess, plan, and organize 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. Use therapeutic techniques, adapt the individual's environment, teach skills, and modify specific tasks that present barriers to the individual. Excludes "Rehabilitation Counselors" (21-1015).

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 radiation oncologist 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: 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 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 “Exercise Trainers and Group Fitness Instructors” (39-9031).

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

29-1129 Therapists, All Other

All therapists not listed separately.

Illustrative examples: Art Therapist, Hydrotherapist, Music Therapist

29-1130 Veterinarians

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 Cardiologist, Veterinary Medicine Scientist, Veterinary Radiologist, Wildlife Veterinarian

29-1140 Registered Nurses

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

29-1150 Nurse Anesthetists

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 examples: Certified Registered Nurse Anesthetist (CRNA)

29-1160 Nurse Midwives

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 examples: Certified Nurse Midwife (CNM)

29-1170 Nurse Practitioners

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

29-1180 Audiologists

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

29-1210 Physicians

29-1211 Anesthesiologists

Administer anesthetics and analgesics for pain management prior to, during, or after surgery.

Illustrative examples: Ambulatory Anesthesiologist, Obstetrical Anesthesiologist

29-1212 Cardiologists

Diagnose, treat, manage, and prevent diseases or conditions of the cardiovascular system. May further subspecialize in interventional procedures (e.g., balloon angioplasty and stent placement), echocardiography, or electrophysiology.

Illustrative examples: Electrophysiology Cardiologist, Interventional Cardiologist

29-1213 Dermatologists

Diagnose and treat diseases relating to the skin, hair, and nails. May perform both medical and dermatological surgery functions.

Illustrative examples: Dermatopathologist, Procedural Dermatologist

29-1214 Emergency Medicine Physicians

Make immediate medical decisions and act to prevent death or further disability. Provide immediate recognition, evaluation, care, stabilization, and disposition of patients. May direct emergency medical staff in an emergency department.

Illustrative examples: Critical Care Physician, Disaster Medicine Physician

29-1215 Family Medicine Physicians

Diagnose, treat, and provide preventive care to individuals and families across the lifespan. May refer patients to specialists when needed for further diagnosis or treatment. Excludes “General Internal Medicine Physicians” (29-1216) and “Pediatricians, General” (29-1221).

Illustrative examples: Family Practice Physician, General Practitioner

29-1216 General Internal Medicine Physicians

Diagnose and provide nonsurgical treatment for a wide range of diseases and injuries of internal organ systems. Provide care mainly for adults and adolescents, and are based primarily in an outpatient care setting. Excludes “Family Medicine Physicians” (29-1215) and “Pediatricians, General” (29-1221).

Illustrative examples: General Internist, Internal Medicine Physician, Internist

29-1217 Neurologists

Diagnose, manage, and treat disorders and diseases of the brain, spinal cord, and peripheral nerves, with a primarily nonsurgical focus.

Illustrative examples: Clinical Neuromuscular Pathologist, Epileptologist, Headache Specialist

29-1218 Obstetricians and Gynecologists

Provide medical care related to pregnancy or childbirth. Diagnose, treat, and help prevent diseases of women, particularly those affecting the reproductive system. May also provide general care to women. May perform both medical and gynecological surgery functions.

Illustrative examples: Gynecological Oncologist, Maternal-Fetal Medicine Physician, OB Specialist, OB/GYN

29-1221 Pediatricians, General

Diagnose, treat, and help prevent diseases and injuries in children. May refer patients to specialists for further diagnosis or treatment, as needed. Excludes “Family Medicine Physicians” (29-1215) and “General Internal Medicine Physicians” (29-1216).

Illustrative examples: Internal Medicine Pediatrician, Paediatrician, Pediatric Cardiologist, Pediatric, Primary Care Pediatrician

29-1222 Physicians, Pathologists

Diagnose diseases and conduct lab tests using organs, body tissues, and fluids. Includes medical examiners.

Illustrative examples: Clinical Pathologist, Immunopathologist, Neuropathologist

29-1223 Psychiatrists

Diagnose, treat, and help prevent mental disorders. Excludes “Clinical and Counseling Psychologists” (19-3033) and “School Psychologists” (19-3034).

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

29-1224 Radiologists

Diagnose and treat diseases and injuries using medical imaging techniques, such as x rays, magnetic resonance imaging (MRI), nuclear medicine, and ultrasounds. May perform minimally invasive medical procedures and tests.

Illustrative examples: Diagnostic Radiologist, Interventional Radiologist

29-1229 Physicians, All Other

All physicians not listed separately.

Illustrative examples: Gastroenterologist, Oncologist, Pulmonologist

29-1240 Surgeons

29-1241 Ophthalmologists, Except Pediatric

Diagnose and perform surgery to treat and help prevent disorders and diseases of the eye. May also provide vision services for treatment including glasses and contacts. Excludes "Optometrists" (29-1041) and "Pediatric Surgeons" (29-1243).

Illustrative examples: Cornea and External Disease Physician, Viteroretinal Disease Physician

29-1242 Orthopedic Surgeons, Except Pediatric

Diagnose and perform surgery to treat and prevent rheumatic and other diseases in the musculoskeletal system. Excludes "Pediatric Surgeons" (29-1243).

Illustrative examples: Joint Preservationist, Orthopedic Sports Medicine Physician

29-1243 Pediatric Surgeons

Diagnose and perform surgery to treat fetal abnormalities and birth defects, diseases, and injuries in fetuses, premature and newborn infants, children, and adolescents. Includes all pediatric surgical specialties and subspecialties. Excludes "Oral and Maxillofacial Surgeons" (29-1022), "Ophthalmologists, Except Pediatric" (29-1241), and "Orthopedic Surgeons, Except Pediatric" (29-1242).

Illustrative examples: Pediatric Neurosurgeon, Pediatric Vascular Surgeon

29-1249 Surgeons, All Other

All surgeons not listed separately. Excludes "Oral and Maxillofacial Surgeons" (29-1022).

Illustrative examples: Neurological Surgeon, Otolaryngologist, Thoracic Surgeon, Urologist

29-1290 Miscellaneous Healthcare Diagnosing or Treating Practitioners

29-1291 Acupuncturists

Diagnose, treat, and prevent disorders by stimulating specific acupuncture points within the body using acupuncture needles. May also use cups, nutritional supplements, therapeutic massage, acupressure, and other alternative health therapies. Excludes "Chiropractors" (29-1011).

Illustrative examples: Acupuncture Physician, Licensed Acupuncturist

29-1292 Dental Hygienists

Administer oral hygiene care to patients. Assess patient oral hygiene problems or needs and maintain health records. Advise patients on oral health maintenance and disease prevention. May provide advanced care such as providing fluoride treatment or administering topical anesthesia.

Illustrative examples: Oral Hygienist, Registered Dental Hygienist

29-1299 Healthcare Diagnosing or Treating Practitioners, All Other

All healthcare diagnosing or treating practitioners not listed separately.

Illustrative examples: Homeopathic Doctor, Naturopathic Physician

29-2000 Health Technologists and Technicians

29-2010 Clinical Laboratory Technologists and Technicians (SOC broad occupation consisting of 29-2011 and 29-2012)

Perform routine or complex medical laboratory tests for diagnosis, treatment, and prevention of disease.

29-2011 Medical and Clinical Laboratory Technologists (Optional – estimates rolled up to 29-2010)

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 (Optional – estimates rolled up to 29-2010)

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

29-2030 Diagnostic Related Technologists and Technicians

29-2031 Cardiovascular Technologists and Technicians

Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic, therapeutic, or research purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary functions, lung capacity, and similar tests.

Illustrative examples: Cardiac Catheterization Technologist, EKG Technician

29-2032 Diagnostic Medical Sonographers

Produce ultrasonic recordings of internal organs for use by physicians. Includes vascular technologists. Excludes "Cardiovascular Technologists and Technicians" (29-2031).

Illustrative examples: Echocardiographer, 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 and Technicians

Take x-rays and CAT scans or administer nonradioactive materials into patient's bloodstream for diagnostic or research purposes. Includes radiologic technologists and technicians 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 (CT/MRI) Technologist, MRI Technologist

29-2036 Medical Dosimetrists

Generate radiation treatment plans, develop radiation dose calculations, communicate and supervise the treatment plan implementation, and consult with members of radiation oncology team.

Illustrative examples: Certified Medical Dosimetrist, Qualified Medical Dosimetrist

29-2040 Emergency Medical Technicians and Paramedics

29-2042 Emergency Medical Technicians

Assess injuries and illnesses and administer basic emergency medical care. May transport injured or sick persons to medical facilities. Excludes "Paramedics" (29-2043), "Firefighters" (33-2011), and "Ambulance Drivers and Attendants, Except Emergency Medical Technicians" (53-3011).

Illustrative examples: EMT

29-2043 Paramedics

Administer basic or advanced emergency medical care and assess injuries and illnesses. May administer medication intravenously, use equipment such as EKGs, or administer advanced life support to sick or injured individuals. Excludes "Emergency Medical Technicians" (29-2042) and "Ambulance Drivers and Attendants, Except Emergency Medical Technicians" (53-3011).

Illustrative examples: Flight Paramedic

29-2050 Health Practitioner Support Technologists and Technicians

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

29-2055 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 surgeons' assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments. Excludes "Surgical Assistants" (29-9093).

Illustrative examples: Certified Surgical Technologist, 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

29-2060 Licensed Practical and Licensed Vocational Nurses

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: LPN, LVN, Pediatric Licensed Practical Nurse

29-2070 Medical Records Specialists

29-2072 Medical Records Specialists

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 healthcare system. Classify medical and healthcare concepts, including diagnosis, procedures, medical services, and equipment, into the healthcare industry's numerical coding system. Includes medical coders. Excludes "Health Information Technologists and Medical Registrars" (29-9021) and "File Clerks" (43-4071).

Illustrative examples: Health Information Coder, Medical Bill Coder

29-2080 Opticians, Dispensing

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

29-2090 Miscellaneous Health Technologists and Technicians

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

29-9000 Other Healthcare Practitioners and Technical Occupations

29-9020 Health Information Technologists and Medical Registrars

29-9021 Health Information Technologists and Medical Registrars

Apply knowledge of healthcare and information systems to assist in the design, development, and continued modification and analysis of computerized healthcare systems. Abstract, collect, and analyze treatment and followup information of patients. May educate staff and assist in problem solving to promote the implementation of the healthcare information system. May design, develop, test, and implement databases with complete history, diagnosis, treatment, and health status to help monitor diseases. Excludes "Medical Records Specialists" (29-2072).

Illustrative examples: Cancer Registrar, Health Informatics Specialist, Health Information Analyst

29-9090 Miscellaneous Health Practitioners and Technical Workers

29-9091 Athletic Trainers

Evaluate and treat musculoskeletal injuries or illnesses. Provide preventive, therapeutic, emergency, and rehabilitative care. Excludes "Physical Therapists" (29-1123).

Illustrative examples: 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

29-9093 Surgical Assistants

Assist in operations, under the supervision of surgeons. May, in accordance with state laws, help surgeons to make incisions and close surgical sites, manipulate or remove tissues, implant surgical devices or drains, suction the surgical site, place catheters, clamp or cauterize vessels or tissue, and apply dressings to surgical site. Excludes "Registered Nurses" (29-1141) and "Surgical Technologists" (29-2055).

Illustrative examples: Surgical First Assistant

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

**31-0000 Healthcare
Support Occupations**

31-0000 Healthcare Support Occupations

31-1100 Home Health and Personal Care Aides; and Nursing Assistants, Orderlies, and Psychiatric Aides

31-1120 Home Health and Personal Care Aides (SOC broad occupation consisting of 31-1121 and 31-1122)

Monitor the health status of an individual with disabilities or illness, and address their routine health-related and personal care needs, such as changing bandages, dressing wounds, or administering medication; or providing personalized assistance with routine personal care and activities of daily living support (e.g. feeding, bathing, dressing, grooming, toileting, and ambulation). Work may be performed under the direction of offsite or intermittent onsite licensed nursing staff; or in various settings depending on the needs of the care recipient and may include locations such as their home, place of work, out in the community, or at a daytime nonresidential facility. May also help with tasks such as preparing meals, doing light housekeeping, and doing laundry.

31-1121 Home Health Aides (Optional – estimates rolled up to 31-1120)

Monitor the health status of an individual with disabilities or illness, and address their health-related needs, such as changing bandages, dressing wounds, or administering medication. Work is performed under the direction of offsite or intermittent onsite licensed nursing staff. Provide assistance with routine healthcare tasks or activities of daily living, such as feeding, bathing, toileting, or ambulation. May also help with tasks such as preparing meals, doing light housekeeping, and doing laundry depending on the patient's abilities.

Illustrative examples: Home Health Attendant, Home Hospice Aide

31-1122 Personal Care Aides (Optional – estimates rolled up to 31-1120)

Provide personalized assistance to individuals with disabilities or illness who require help with personal care and activities of daily living support (e.g., feeding, bathing, dressing, grooming, toileting, and ambulation). May also provide help with tasks such as preparing meals, doing light housekeeping, and doing laundry. Work is performed in various settings depending on the needs of the care recipient and may include locations such as their home, place of work, out in the community, or at a daytime nonresidential facility.

Illustrative examples: Blind Escort, Elderly Companion, Geriatric Personal Care Aide

31-1130 Nursing Assistants, Orderlies, and Psychiatric Aides

31-1131 Nursing Assistants

Provide or assist with basic care or support under the direction of onsite licensed nursing staff. Perform duties such as monitoring of health status, feeding, bathing, dressing, grooming, toileting, or ambulation of patients in a health or nursing facility. May include medication administration and other health-related tasks. Includes nursing care attendants, nursing aides, and nursing attendants. Excludes "Home Health Aides" (31-1121), "Personal Care Aides" (31-1122), "Orderlies" (31-1132), and "Psychiatric Aides" (31-1133).

Illustrative examples: Certified Nurse Aide, Certified Nursing Assistant, Nursing Care Attendant

31-1132 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. Excludes "Nursing Assistants" (31-1131). Psychiatric orderlies are included in "Psychiatric Aides" (31-1133).

Illustrative examples: Hospital Orderly, Medical Orderly, Surgical Orderly

31-1133 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

31-2000 Occupational Therapy and Physical Therapist Assistants and Aides

31-2010 Occupational Therapy Assistants and Aides

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 Therapy 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

31-2020 Physical Therapist Assistants and Aides

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 Therapist 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

31-9000 Other Healthcare Support Occupations

31-9010 Massage Therapists

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 Masseuse

31-9090 Miscellaneous Healthcare Support Occupations

31-9091 Dental Assistants

Perform limited clinical duties under the direction of a dentist. Clinical duties may include equipment preparation and sterilization, preparing patients for treatment, assisting the dentist during treatment, and providing patients with instructions for oral healthcare procedures. May perform administrative duties such as scheduling appointments, maintaining medical records, billing, and coding information for insurance purposes.

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 postoperative 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 “Animal Caretakers” (39-2021).

Illustrative examples: Veterinarian Helper, Veterinary Attendant

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 examples: Ortho/Prosthetic Aide

33-0000 Protective Service Occupations

33-0000 Protective Service Occupations

33-1000 Supervisors of Protective Service Workers

33-1010 First-Line Supervisors of Law Enforcement Workers

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

33-1020 First-Line Supervisors of Firefighting and Prevention Workers

33-1021 First-Line Supervisors of Firefighting and Prevention Workers

Directly supervise and coordinate activities of workers engaged in firefighting and fire prevention and control.

Illustrative examples: Fire Lieutenant, Municipal Fire Fighting and Prevention Supervisor, Supervising Fire Marshal

33-1090 Miscellaneous First-Line Supervisors, Protective Service Workers

33-1091 First-Line Supervisors of Security Workers

Directly supervise and coordinate activities of security workers and security guards.

Illustrative examples: Loss Prevention Supervisor, Security Guard Supervisor, TSA Screener Supervisor

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

33-2000 Firefighting and Prevention Workers

33-2010 Firefighters

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

33-2020 Fire Inspectors

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

33-3000 Law Enforcement Workers

33-3010 Bailiffs, Correctional Officers, and Jailers

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

33-3020 Detectives and Criminal Investigators

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

33-3030 Fish and Game Wardens

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

33-3040 Parking Enforcement Workers

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

33-3050 Police Officers

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. Includes police officers working at educational institutions.

Illustrative examples: Border Patrol Officer, Campus Police 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

33-9000 Other Protective Service Workers

33-9010 Animal Control Workers

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

33-9020 Private Detectives and Investigators

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

33-9030 Security Guards and Gambling Surveillance Officers

33-9031 Gambling Surveillance Officers and Gambling Investigators

Observe gambling operation for irregular activities such as cheating or theft by either employees or patrons. Investigate potential threats to gambling assets such as money, chips, and gambling equipment. Act as oversight and security agent for management and customers.

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 "Police Officers" (33-3050) and "Transportation Security Screeners" (33-9093).

Illustrative examples: Bank Guard, Bodyguard, Bouncer

33-9090 Miscellaneous Protective Service Workers

33-9091 Crossing Guards and Flaggers

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 Administration (TSA) Screener, Transportation Security Officer

33-9094 School Bus Monitors

Maintain order among students on a school bus. Duties include helping students safely board and exit and communicating behavioral problems. May perform pretrip and posttrip inspections and prepare for and assist in emergency evacuations.

Illustrative examples: Bus Monitor

33-9099 Protective Service Workers, All Other

All protective service workers not listed separately.

Illustrative examples: Warrant Server

35-0000 Food

Preparation and Serving

Related Occupations

35-0000 Food Preparation and Serving Related Occupations

35-1000 Supervisors of Food Preparation and Serving Workers

35-1010 Supervisors of Food Preparation and Serving Workers

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

35-2000 Cooks and Food Preparation Workers

35-2010 Cooks

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 examples: 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 “Cooks, Fast Food” (35-2011).

Illustrative examples: Griddle Cook

35-2019 Cooks, All Other

All cooks not listed separately.

Illustrative examples: Falafel Cart Cook, Fraternity House Cook

35-2020 Food Preparation Workers

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

35-3000 Food and Beverage Serving Workers

35-3010 Bartenders

35-3011 Bartenders

Mix and serve drinks to patrons, directly or through waitstaff.

Illustrative examples: Barkeep, Mixologist, Taproom Attendant

35-3020 Fast Food and Counter Workers

35-3023 Fast Food and Counter Workers

Perform duties such as taking orders and serving food and beverages. Serve customers at counter or from a steam table. May take payment. May prepare food and beverages. Counter attendants who also wait tables are included in “Waiters and Waitresses” (35-3031),

Illustrative examples: Barista, Cafeteria Server, Ice Cream Server, Mess Attendant, Snack Bar Attendant

35-3030 Waiters and Waitresses

35-3031 Waiters and Waitresses

Take orders and serve food and beverages to patrons at tables in dining establishment. Excludes “Fast Food and Counter Workers” (35-3023).

Illustrative examples: Cocktail Server, Dining Car Server, Wine Steward

35-3040 Food Servers, Nonrestaurant

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 “Fast Food and Counter Workers” (35-3023) and “Door-to-Door Sales Workers, News and Street Vendors, and Related Workers” (41-9091).

Illustrative examples: Boat Hop, Hospital Food Service Worker, Room Service Food Server

35-9000 Other Food Preparation and Serving Related Workers

35-9010 Dining Room and Cafeteria Attendants and Bartender Helpers

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

35-9020 Dishwashers

35-9021 Dishwashers

Clean dishes, kitchen, food preparation equipment, or utensils.

Illustrative examples: Dish Room Worker, Silverware Cleaner

35-9030 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop

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, Maître D'

35-9090 Miscellaneous Food Preparation and Serving Related Workers

35-9099 Food Preparation and Serving Related Workers, All Other

All food preparation and serving related workers not listed separately.

Illustrative examples: Kitchen Steward

**37-0000 Building and
Grounds Cleaning and
Maintenance
Occupations**

37-0000 Building and Grounds Cleaning and Maintenance Occupations

37-1000 Supervisors of Building and Grounds Cleaning and Maintenance Workers

37-1010 First-Line Supervisors of Building and Grounds Cleaning and Maintenance Workers

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

37-2000 Building Cleaning and Pest Control Workers

37-2010 Building Cleaning Workers

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

37-2020 Pest Control Workers

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

37-3000 Grounds Maintenance Workers

37-3010 Grounds Maintenance Workers

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 crops. Usually requires specific training and state or federal certification. Crop dusters are included in "Commercial Pilots" (53-2012).

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 "Landscaping and Groundskeeping Workers" (37-3011) and "Pesticide Handlers, Sprayers, and Applicators, Vegetation" (37-3012).

Illustrative examples: Tree Specialist, Tree Surgeon, Utility Arborist

37-3019 Grounds Maintenance Workers, All Other

All grounds maintenance workers not listed separately.

Illustrative examples: Trailhead Maintenance Worker, Tree Trimmer Helper

39-0000 Personal Care and Service Occupations

39-0000 Personal Care and Service Occupations

39-1000 Supervisors of Personal Care and Service Workers

39-1010 First-Line Supervisors of Entertainment and Recreation Workers

39-1013 First-Line Supervisors of Gambling Services Workers

Directly supervise and coordinate activities of workers in assigned gambling areas. May circulate among tables, observe operations, and ensure that stations and games are covered for each shift. May verify and pay off jackpots. May reset slot machines after payoffs and make repairs or adjustments to slot machines or recommend removal of slot machines for repair. May plan and organize activities and services for guests in hotels/casinos.

Illustrative examples: Cardroom Supervisor, Casino Slot Supervisor, Electronic Gambling Device Supervisor, Pit Boss, Slot Key Person, Table Games Supervisor

39-1014 First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services

Directly supervise and coordinate activities of entertainment and recreation related workers.

Illustrative examples: Arcade Supervisor, Caddy Master, Recreation Attendant Supervisor

39-1020 First-Line Supervisors of Personal Service Workers

39-1022 First-Line Supervisors of Personal Service Workers

Supervise and coordinate activities of personal service workers.

Illustrative examples: Animal Trainer Supervisor, Child Care Worker Supervisor, Hair Salon Supervisor

39-2000 Animal Care and Service Workers

39-2010 Animal Trainers

39-2011 Animal Trainers

Train animals for riding, harness, security, performance, or obedience, or for 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

39-2020 Animal Caretakers

39-2021 Animal Caretakers

Feed, water, groom, bathe, exercise, or otherwise provide care to promote and maintain the well-being of pets and other animals that are not raised for consumption, such as dogs, cats, race horses, 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) and “Farmworkers, Farm, Ranch, and Aquacultural Animals” (45-2093).

Illustrative examples: Animal Shelter Worker, Dog Groomer, Kennel Worker, Zookeeper

39-3000 Entertainment Attendants and Related Workers

39-3010 Gambling Services Workers

39-3011 Gambling 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 gambling 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 Gambling 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 pay out winnings for those wagers.

Illustrative examples: Betting Clerk, Bingo Worker, Keno Runner, Race Book Writer

39-3019 Gambling Service Workers, All Other

All gambling service workers not listed separately.

Illustrative examples: Pit Clerk, Proposition Player, Shill

39-3020 Motion Picture Projectionists

39-3021 Motion Picture Projectionists

Set up and operate motion picture projection and related sound reproduction equipment.

Illustrative examples: Film Projector Operator, Movie Projectionist

39-3030 Ushers, Lobby Attendants, and Ticket Takers

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 helping patrons locate such facilities as restrooms and telephones.

Illustrative examples: Theater Usher, Ticket Collector

39-3090 Miscellaneous Entertainment Attendants and Related Workers

39-3091 Amusement and Recreation Attendants

Perform a 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.

39-4000 Funeral Service Workers

39-4010 Embalmers and Crematory Operators

39-4011 Embalmers

Prepare bodies for interment in conformity with legal requirements.

Illustrative examples: Licensed Embalmer, Restorative Art Embalmer

39-4012 Crematory Operators

Operate crematory equipment to reduce human or animal remains to bone fragments in accordance with state and local regulations. Duties may include preparing the body for cremation and performing general maintenance on crematory equipment. May use traditional flame-based cremation, calcination, or alkaline hydrolysis.

Illustrative examples: Cremator, Crematory Operator

39-4020 Funeral Attendants

39-4021 Funeral Attendants

Perform a 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

39-4030 Morticians, Undertakers, and Funeral Arrangers

39-4031 Morticians, Undertakers, and Funeral Arrangers

Perform various tasks to arrange and direct individual 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 Home Managers” (11-9171).

Illustrative examples: Certified Mortician, Funeral Arranger

39-5000 Personal Appearance Workers

39-5010 Barbers, Hairdressers, Hairstylists and Cosmetologists

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 cutting, coloring, and styling hair, and massaging and treating scalp. May shampoo hair, apply makeup, dress wigs, remove hair, and provide nail and skincare services. Excludes “Makeup Artists, Theatrical and Performance” (39-5091), “Manicurists and Pedicurists” (39-5092), and “Skincare Specialists” (39-5094).

Illustrative examples: Beautician, Wig Stylist

39-5090 Miscellaneous Personal Appearance Workers

39-5091 Makeup Artists, Theatrical and Performance

Apply makeup to performers to reflect period, setting, and situation of their role.

Illustrative examples: 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: Electrolysis Operator, Facialist, Medical Esthetician

39-6000 Baggage Porters, Bellhops, and Concierges

39-6010 Baggage Porters, Bellhops, and Concierges

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

39-7000 Tour and Travel Guides

39-7010 Tour and Travel Guides (SOC broad occupation consisting of 39-7011 and 39-7012)

Plan, organize, and conduct long distance travel, tours, and expeditions; or sightseeing tours through places of interest such as industrial establishments, public buildings, and art galleries.

39-7011 Tour Guides and Escorts (Optional – estimates rolled up to 39-7010)

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 (Optional – estimates rolled up to 39-7010)

Plan, organize, and conduct long-distance travel, tours, and expeditions for individuals and groups.

Illustrative examples: Cruise Director, River Expedition Guide

39-9000 Other Personal Care and Service Workers

39-9010 Childcare Workers

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 “Teaching Assistants, Preschool, Elementary, Middle, and Secondary School, Except Special Education” (25-9042).

Illustrative examples: Au Pair, Daycare Provider, Nanny

39-9030 Recreation and Fitness Workers

39-9031 Exercise Trainers and Group Fitness Instructors

Instruct or coach groups or individuals in exercise activities for the primary purpose of personal fitness. Demonstrate techniques and form, observe participants, and explain to them corrective measures necessary to improve their skills. Develop and implement individualized approaches to exercise. Excludes “Educational Instruction and Library Occupations” (25-0000), “Coaches and Scouts” (27-2022), and “Athletic Trainers” (29-9091).

Illustrative examples: Aerobics Instructor, 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: Camp Counselor, Recreational Activities Aide

39-9040 Residential Advisors

39-9041 Residential Advisors

Coordinate activities in resident facilities in secondary school 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

39-9090 Miscellaneous Personal Care and Service Workers

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

41-0000 Sales and Related Occupations

41-0000 Sales and Related Occupations

41-1000 Supervisors of Sales Workers

41-1010 First-Line Supervisors of Sales Workers

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

41-2000 Retail Sales Workers

41-2010 Cashiers

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 "Gambling Change Persons and Booth Cashiers" (41-2012).

Illustrative examples: Cash Register Operator, Grocery Checker, Toll Collector

41-2012 Gambling 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 examples: Mutuel Teller, Slot Attendant

41-2020 Counter and Rental Clerks and Parts Salespersons

41-2021 Counter and Rental Clerks

Receive orders, generally in person, for repairs, rentals, and services. May describe available options, compute cost, and accept payment. Excludes "Fast Food and Counter Workers" (35-3023), "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: Automotive Service Writer, 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

41-2030 Retail Salespersons

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

41-3000 Sales Representatives, Services

41-3010 Advertising Sales Agents

41-3011 Advertising Sales Agents

Sell or solicit advertising space, time, or media in publications, signage, TV, radio, or Internet establishments or public spaces.

Illustrative examples: Advertising Account Executive, Display Advertising Sales Representative, Yellow Pages Space Salesperson

41-3020 Insurance Sales Agents

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

41-3030 Securities, Commodities, and Financial Services Sales Agents

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: Foreign Exchange Trader, Investment Banker, Securities Trader, Stock Broker

41-3040 Travel Agents

41-3041 Travel Agents

Plan and sell transportation and accommodations for 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

41-3090 Miscellaneous Sales Representatives, Services

41-3091 Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel

Sell services to individuals or businesses. May describe options or resolve client problems. Excludes “Advertising Sales Agents” (41-3011), “Insurance Sales Agents” (41-3021), “Securities, Commodities, and Financial Services Sales Agents” (41-3031), “Travel Agents” (41-3041), “Sales Representatives, Wholesale and Manufacturing” (41- 4010), and “Telemarketers” (41-9041).

Illustrative examples: Business Services Sales Representative, Membership Solicitor, Pest Control Service Sales Agent

41-4000 Sales Representatives, Wholesale and Manufacturing

41-4010 Sales Representatives, Wholesale and Manufacturing

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 postsecondary 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

41-9000 Other Sales and Related Workers

41-9010 Models, Demonstrators, and Product Promoters

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

41-9020 Real Estate Brokers and Sales Agents

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 examples: 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

41-9030 Sales Engineers

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

41-9040 Telemarketers

41-9041 Telemarketers

Solicit donations or orders for goods or services over the telephone.

Illustrative examples: Telemarketing Sales Representative, Telephone Solicitor

41-9090 Miscellaneous Sales and Related Workers

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, Pawn Shop Clerk, Personal Shopper, Store Gift Wrap Associate

**43-0000 Office and
Administrative Support
Occupations**

43-0000 Office and Administrative Support Occupations

43-1000 Supervisors of Office and Administrative Support Workers

43-1010 First-Line Supervisors of Office and Administrative Support Workers

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

43-2000 Communications Equipment Operators

43-2010 Switchboard Operators, Including Answering Service

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

43-2020 Telephone Operators

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, Information Operator, Long Distance Operator

43-2090 Miscellaneous Communications Equipment Operators

43-2099 Communications Equipment Operators, All Other

All communications equipment operators not listed separately.

Illustrative examples: Radio Operator

43-3000 Financial Clerks

43-3010 Bill and Account Collectors

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

43-3020 Billing and Posting Clerks

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. Excludes "Medical Records Specialists" (29-2072).

Illustrative examples: Invoice Control Clerk, Statement Processor

43-3030 Bookkeeping, Accounting, and Auditing Clerks

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

43-3040 Gambling Cage Workers

43-3041 Gambling Cage Workers

In a gambling establishment, conduct financial transactions for patrons. Accept patron's credit application and verify credit references to provide check-cashing authorization or to establish house credit accounts. May reconcile daily summaries of transactions to balance books. May sell gambling chips, tokens, or tickets to patrons, or to other workers for resale to patrons. May convert gambling 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

43-3050 Payroll and Timekeeping Clerks

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 examples: Time and Attendance Clerk, Timekeeper

43-3060 Procurement Clerks

43-3061 Procurement Clerks

Compile information and records to draw up purchase orders for procurement of materials and services. Excludes "Wholesale and Retail Buyers, Except Farm Products" (13-1022).

Illustrative examples: Procurement Assistant, Purchasing Clerk

43-3070 Tellers

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

43-3090 Miscellaneous Financial Clerks

43-3099 Financial Clerks, All Other

All financial clerks not listed separately.

Illustrative examples: Bank Vault Attendant, Financial Reserve Clerk, Safety Deposit Clerk

43-4000 Information and Record Clerks

43-4010 Brokerage Clerks

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

43-4020 Correspondence Clerks

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

43-4030 Court, Municipal, and License Clerks

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

43-4040 Credit Authorizers, Checkers, and Clerks

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

43-4050 Customer Service Representatives

43-4051 Customer Service Representatives

Interact with customers to provide basic or scripted information in response to routine inquiries about products and services. May handle and resolve general complaints. Excludes individuals whose duties are primarily installation, sales, repair, and technical support.

Illustrative examples: Customer Complaint Clerk, Passenger Relations Representative, Warranty Clerk

43-4060 Eligibility Interviewers, Government Programs

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: Medicare Interviewer, Public Housing Interviewer, Unemployment Benefits Claims Taker

43-4070 File Clerks

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

43-4080 Hotel, Motel, and Resort Desk Clerks

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

43-4110 Interviewers, Except Eligibility and Loan

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

43-4120 Library Assistants, Clerical

43-4121 Library Assistants, Clerical

Compile records, and 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

43-4130 Loan Interviewers and Clerks

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

43-4140 New Accounts Clerks

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

43-4150 Order Clerks

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

43-4160 Human Resources Assistants, Except Payroll and Timekeeping

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

43-4170 Receptionists and Information Clerks

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

43-4180 Reservation and Transportation Ticket Agents and Travel Clerks

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 and contact individuals and groups to inform them of package tours; or provide tourists with travel or transportation information. Excludes "Cashiers" (41-2011), "Travel Agents" (41-3041), and "Hotel, Motel, and Resort Desk Clerks" (43-4081) who sell tickets for local transportation.

Illustrative examples: Airline Ticket Agent, Gate Agent, Hotel Reservationist, Train Reservation Clerk

43-4190 Miscellaneous Information and Record Clerks

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

43-5000 Material Recording, Scheduling, Dispatching, and Distributing Workers

43-5010 Cargo and Freight Agents

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

43-5020 Couriers and Messengers

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 Drivers" (53-3033).

Illustrative examples: Bicycle Messenger, Laboratory Courier, Office Runner

43-5030 Dispatchers

43-5031 Public Safety Telecommunicators

Operate telephone, radio, or other communication systems to receive and communicate requests for emergency assistance at 9-1-1 public safety answering points and emergency operations centers. Take information from the public and other sources regarding crimes, threats, disturbances, acts of terrorism, fires, medical emergencies, and other public safety matters. May coordinate and provide information to law enforcement and emergency response personnel. May access sensitive databases and other information sources as needed. May provide additional instructions to callers based on knowledge of and certification in law enforcement, fire, or emergency medical procedures.

Illustrative examples: 911 Operator, Emergency Operator, Public Safety Dispatcher, Public Safety Telecommunicator

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

43-5040 Meter Readers, Utilities

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

43-5050 Postal Service Workers

43-5051 Postal Service Clerks

Perform any combination of tasks in a United States Postal Service (USPS) 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. Includes postal service clerks employed by USPS contractors.

Illustrative examples: Bulk Mail Clerk, Parcel Post Clerk, Postal Service Window Clerk

43-5052 Postal Service Mail Carriers

Sort and deliver mail for the United States Postal Service (USPS). Deliver mail on established route by vehicle or on foot. Includes postal service mail carriers employed by USPS contractors.

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 for the United States Postal Service (USPS). 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 perform other duties related to mail handling within the postal service. Includes postal service mail sorters and processors employed by USPS contractors. Excludes "Postal Service Clerks" (43-5051) and "Postal Service Mail Carriers" (43-5052).

Illustrative examples: Flat Sorting Machine Clerk, Mail Forwarding System Markup Clerk

43-5060 Production, Planning, and Expediting Clerks

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 "Project Management Specialists" (13-1082) and "Weighers, Measurers, Checkers, and Samplers, Recordkeeping" (43-5111).

Illustrative examples: Expeditor, Material Control Clerk, Production Scheduler

43-5070 Shipping, Receiving, and Inventory Clerks

43-5071 Shipping, Receiving, and Inventory Clerks

Verify and maintain records on incoming and outgoing shipments involving inventory. Duties include verifying and recording incoming merchandise or material and arranging for the transportation of products. May prepare items for shipment. Excludes “Weighers, Measurers, Checkers, and Samplers, Recordkeeping” (43-5111), “Mail Clerks and Mail Machine Operators, except Postal Service” (43-9051), and “Stockers and Order Fillers” (53-7065).

Illustrative examples: Incoming Freight Clerk, Route Delivery Clerk, Store Receiving Clerk, Warehouse Clerk

43-5110 Weighers, Measurers, Checkers, and Samplers, Recordkeeping

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

43-6000 Secretaries and Administrative Assistants

43-6010 Secretaries and Administrative Assistants

43-6011 Executive Secretaries and Executive Administrative Assistants

Provide high-level administrative support by conducting research, preparing statistical reports, and handling information requests, as well as performing routine administrative 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 examples: Executive Assistant

43-6012 Legal Secretaries and Administrative Assistants

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 and Administrative Assistants

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 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

43-9000 Other Office and Administrative Support Workers

43-9020 Data Entry and Information Processing Workers

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 "Court Reporters and Simultaneous Captioners" (27-3092), "Medical Transcriptionists" (31-9094), "Secretaries and Administrative Assistants" (43-6010), and "Data Entry Keyers" (43-9021).

Illustrative examples: Clerk Typist, Transcription Typist

43-9030 Desktop Publishers

43-9031 Desktop Publishers

Format typescript and graphic elements using computer software to produce publication-ready material.

Illustrative examples: Desktop Publishing Specialist, Electronic Publisher

43-9040 Insurance Claims and Policy Processing Clerks

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

43-9050 Mail Clerks and Mail Machine Operators, Except Postal Service

43-9051 Mail Clerks and Mail Machine Operators, Except Postal Service

Prepare incoming and outgoing mail for distribution. 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

43-9060 Office Clerks, General

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, office machine operation, and filing.

Illustrative examples: Administrative Clerk, Office Assistant, Real Estate Clerk

43-9070 Office Machine Operators, Except Computer

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 "Billing and Posting Clerks" (43-3021) and "Mail Clerks and Mail Machine Operators, Except Postal Service" (43-9051).

Illustrative examples: Coin Wrapping Machine Operator, Copy Machine Operator, Scanning Equipment Operators

43-9080 Proofreaders and Copy Markers

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

43-9110 Statistical Assistants

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

43-9190 Miscellaneous Office and Administrative Support Workers

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

**45-0000 Farming,
Fishing, and Forestry
Occupations**

45-0000 Farming, Fishing, and Forestry Occupations

45-1000 Supervisors of Farming, Fishing, and Forestry Workers

45-1010 First-Line Supervisors of Farming, Fishing, and Forestry Workers

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

45-2000 Agricultural Workers

45-2010 Agricultural Inspectors

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

45-2020 Animal Breeders

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 “Animal Scientists” (19-1011) whose primary function is research and “Animal Caretakers” (39-2021) who may occasionally breed animals as part of their other caretaking duties.

Illustrative examples: Dairy Husbandry Worker, Horse Breeder

45-2040 Graders and Sorters, Agricultural Products

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

45-2090 Miscellaneous Agricultural Workers

45-2091 Agricultural Equipment Operators

Drive and control equipment to support agricultural activities such as tilling soil; planting, cultivating, and harvesting crops; feeding and herding livestock; or removing animal waste. 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, Feed Mixer 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 “Pesticide Handlers, Sprayers, and Applicators, Vegetation” (37-3012), “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, open range or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, rabbits, 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, milking, 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

45-3000 Fishing and Hunting Workers

45-3030 Fishing and Hunting Workers

45-3031 Fishing and Hunting Workers

Hunt, trap, catch, or gather wild animals or aquatic animals and plants. May use nets, traps, or other equipment. May haul catch onto ship or other vessel. Aquacultural laborers who work on fish farms are included in “Farmworkers, Farm, Ranch, and Aquacultural Animals” (45-2093).

Illustrative examples: Bird Trapper, Deer Hunter, Predatory Animal Trapper, Seaweed Harvester, Wild Oyster Harvester

45-4000 Forest, Conservation, and Logging Workers

45-4010 Forest and Conservation Workers

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, tree planters, and gatherers of nontimber forestry products such as pine straw.

Illustrative examples: Forestry Laborer, Rangelands Conservation Laborer, Reforestation Worker, Wetlands Conservation Laborer

45-4020 Logging Workers

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. Includes operating stand-alone logging machines, such as log chippers. 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

**47-0000 Construction
and Extraction
Occupations**

47-0000 Construction and Extraction Occupations

47-1000 Supervisors of Construction and Extraction Workers

47-1010 First-Line Supervisors of Construction Trades and Extraction Workers

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

47-2000 Construction Trades Workers

47-2010 Boilermakers

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

47-2020 Brickmasons, Blockmasons, and Stonemasons

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. Installers of mortarless segmental concrete masonry wall units are classified in "Landscaping and Groundskeeping Workers" (37-3011). Excludes "Stonemasons" (47-2022).

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

47-2030 Carpenters

47-2031 Carpenters

Construct, erect, install, or repair structures and fixtures made of wood and comparable materials, 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

47-2040 Carpet, Floor, and Tile Installers and Finishers

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 Layer

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 Stone Setters

Apply hard tile, stone, and comparable materials to walls, floors, ceilings, countertops, and roof decks.

Illustrative examples: Ceramic Tile Installer, Hard Tile Setter, Marble Ceiling Installer, Parquet Floor Layer

47-2050 Cement Masons, Concrete Finishers, and Terrazzo Workers

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

47-2060 Construction Laborers

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

47-2070 Construction Equipment Operators

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 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

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 "Extraction Workers" (47-5000) and "Crane and Tower Operators" (53-7021).

Illustrative examples: Construction Bulldozer Operator, Road Grader, Steam Shovel Operator

47-2080 Drywall Installers, Ceiling Tile Installers, and Tapers

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, fireproofing, or acoustical material. Excludes "Carpenters" (47-2031), "Carpet Installers" (47-2041), and "Tile and Stone 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

47-2110 Electricians

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

47-2120 Glaziers

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

47-2130 Insulation Workers

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

47-2140 Painters and Paperhangers

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

47-2150 Pipelayers, Plumbers, Pipefitters, and Steamfitters

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 sprinkler fitters.

Illustrative examples: Fire Sprinkler Installer, Solar Thermal Installer, Sprinkler Fitter

47-2160 Plasterers and Stucco Masons

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

47-2170 Reinforcing Iron and Rebar Workers

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 Ironworker, Steel Rod Buster

47-2180 Roofers

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

47-2210 Sheet Metal Workers

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

47-2220 Structural Iron and Steel Workers

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

47-2230 Solar Photovoltaic Installers

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 PV electricians who are included in "Electricians" (47-2111) and solar thermal installers who are included in "Plumbers, Pipefitters, and Steamfitters" (47-2152).

Illustrative examples: Photovoltaic (PV) Installation Technician, Solar PV Installer

47-3000 Helpers, Construction Trades

47-3010 Helpers, Construction Trades

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

47-4000 Other Construction and Related Workers

47-4010 Construction and Building Inspectors

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, Home Inspector

47-4020 Elevator and Escalator Installers and Repairers

47-4021 Elevator and Escalator 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

47-4030 Fence Erectors

47-4031 Fence Erectors

Erect and repair fences and fence gates, using hand and power tools.

Illustrative examples: Wire Fence Builder, Wood Fence Installer

47-4040 Hazardous Materials Removal Workers

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

47-4050 Highway Maintenance Workers

47-4051 Highway Maintenance Workers

Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement and 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

47-4060 Rail-Track Laying and Maintenance Equipment Operators

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

47-4070 Septic Tank Servicers and Sewer Pipe Cleaners

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

47-4090 Miscellaneous Construction and Related Workers (SOC broad occupation consisting of 47-4091 and 47-4099)

Lay out, cut, and place segmental paving units. Includes all other construction and related workers not listed separately.

47-4091 Segmental Pavers (Optional – estimates rolled up to 47-4090)

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 (Optional – estimates rolled up to 47-4090)

All construction and related workers not listed separately.

Illustrative examples: Aluminum Pool Installer, Waterproofer

47-5000 Extraction Workers

47-5010 Derrick, Rotary Drill, and Service Unit Operators, Oil and Gas

47-5011 Derrick Operators, Oil and Gas

Rig derrick equipment and operate pumps to circulate mud or fluid through drill hole.

Illustrative examples: Fracturing Derrick Operator, 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" (47-5023).

Illustrative examples: Fracturing Rotary Drill Operator, Oil Well Cable Tool Operator, Oil Well Driller

47-5013 Service Unit Operators, Oil and Gas

Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells. Includes fishing-tool technicians.

Illustrative examples: Well Servicing Rig Operator

47-5020 Surface Mining Machine Operators and Earth Drillers

47-5022 Excavating and Loading Machine and Dragline Operators, Surface Mining

Operate or tend machinery at surface mining site, equipped with scoops, shovels, or buckets to excavate and load loose materials.

Illustrative examples: Mining Bulldozer Operator, Mining Shovel Operator

47-5023 Earth Drillers, Except Oil and Gas

Operate a variety of drills such as rotary, churn, and pneumatic to tap subsurface 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. Includes horizontal and earth boring machine operators.

Illustrative examples: Blast Hole Driller, Churn Driller, Earth Auger Operator

47-5030 Explosives Workers, Ordnance Handling Experts, and Blasters

47-5032 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.

Illustrative examples: Blast Setter, Dynamiter, Explosive Technician, Mining Powder Crew Worker

47-5040 Underground Mining Machine Operators

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, shuttle cars, or trucks in a continuous operation.

Illustrative examples: Continuous Mining Machine Lode Miner, Continuous Mining Machine Miner, Self-Propelled Mining Machine Operator

47-5043 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

47-5044 Loading and Moving Machine Operators, Underground Mining

Operate underground loading or moving machine to load or move coal, ore, or rock using shuttle or mine car or conveyors. Equipment may include power shovels, hoisting engines equipped with cable-drawn scraper or scoop, or machines equipped with gathering arms and conveyor.

Illustrative examples: Coal Hauler Operator, Coke Loader, Mine Shuttle Car Operator, Mobile Bridge Conveyor Operator

47-5049 Underground Mining Machine Operators, All Other

All underground mining machine operators not listed separately.

Illustrative examples: Long Wall Operator, Long Wall Shearer, Rock Dust Sprayer, Underground Jumbo Driller

47-5050 Rock Splitters, Quarry

47-5051 Rock Splitters, Quarry

Separate blocks of rough dimension stone from quarry mass using jackhammers, wedges, or chop saws.

Illustrative examples: Quarry Chop Saw Operator, Quarry Plug and Feather Driller, Sandstone Splitter

47-5070 Roustabouts, Oil and Gas

47-5071 Roustabouts, Oil and Gas

Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed.

Illustrative examples: Gas Floorhand, Oil Field Roustabout, Oil Rig Roughneck

47-5080 Helpers--Extraction Workers

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

47-5090 Miscellaneous Extraction Workers

47-5099 Extraction Workers, All Other

All extraction workers not listed separately.

Illustrative examples: Mine Milling Worker, Mine Tailings Worker

**49-0000 Installation,
Maintenance and Repair
Occupations**

49-0000 Installation, Maintenance, and Repair Occupations

49-1000 Supervisors of Installation, Maintenance, and Repair Workers

49-1010 First-Line Supervisors of Mechanics, Installers, and Repairers

49-1011 First-Line Supervisors of Mechanics, Installers, and Repairers

Directly supervise and coordinate the activities of mechanics, installers, and repairers. May also advise customers on recommended services. Excludes team or work leaders.

Illustrative examples: Automobile Body Repair Supervisor, Fleet Maintenance Supervisor, Railroad Car Repair Supervisor

49-2000 Electrical and Electronic Equipment Mechanics, Installers, and Repairers

49-2010 Computer, Automated Teller, and Office Machine Repairers

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

49-2020 Radio and Telecommunications Equipment Installers and Repairers

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

49-2090 Miscellaneous Electrical and Electronic Equipment Mechanics, Installers, and Repairers

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), “Electrical and Electronics Installers and Repairers, Transportation Equipment” (49-2093), and “Electronic Equipment Installers and Repairers, Motor Vehicles” (49-2096).

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 Audiovisual Equipment Installers and Repairers

Install, repair, or adjust audio or television receivers, stereo systems, camcorders, video systems, or other electronic entertainment equipment in homes or other venues. May perform routine maintenance. Excludes “Audio and Video Technicians” (27-4011).

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, and repair security and 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

49-3000 Vehicle and Mobile Equipment Mechanics, Installers, and Repairers

49-3010 Aircraft Mechanics and Service Technicians

49-3011 Aircraft Mechanics and Service Technicians

Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Excludes "Avionics Technicians" (49-2091).

Illustrative examples: Aircraft Engine Specialist, Airframe Mechanic, Flight Test Mechanic, Helicopter Engine Mechanic

49-3020 Automotive Technicians and Repairers

49-3021 Automotive Body and Related Repairers

Repair and refinish automotive vehicle bodies and straighten vehicle frames. Excludes "Automotive Glass Installers and Repairers" (49-3022) and "Coating, Painting, and Spraying Machine Setters, Operators, and Tenders" (51-9124).

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

49-3030 Bus and Truck Mechanics and Diesel Engine Specialists

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

49-3040 Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics

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 mining. Excludes “Bus and Truck Mechanics and Diesel Engine Specialists” (49-3031) and “Rail Car Repairers” (49-3043).

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, Streetcar Repairer, Subway Car Repairer, Trolley Car Overhauler

49-3050 Small Engine Mechanics

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, Motor Scooter Mechanic, Motorcycle Service Technician

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

49-3090 Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers

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

49-9000 Other Installation, Maintenance, and Repair Occupations

49-9010 Control and Valve Installers and Repairers

49-9011 Mechanical Door Repairers

Install, service, or repair automatic door mechanisms and hydraulic doors. Includes garage door mechanics.

Illustrative examples: 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

49-9020 Heating, Air Conditioning, and Refrigeration Mechanics and Installers

49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers

Install or repair heating, central air conditioning, HVAC, 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

49-9030 Home Appliance Repairers

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

49-9040 Industrial Machinery Installation, Repair, and Maintenance Workers

49-9041 Industrial Machinery Mechanics

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems. May also install, dismantle, or move machinery and heavy equipment according to plans. Excludes "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 examples: 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 Operator, Cupola Repairer, Kiln Door Builder, Ladle Repairer

49-9050 Line Installers and Repairers

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

49-9060 Precision Instrument and Equipment Repairers

49-9061 Camera and Photographic Equipment Repairers

Repair and adjust cameras and photographic equipment, including commercial video and motion picture camera equipment.

Illustrative examples: 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 "Audiovisual 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 and Clock Repairers

Repair, clean, and adjust mechanisms of timing instruments, such as watches and clocks. Includes watchmakers, watch technicians, and mechanical timepiece repairers. Excludes "Timing Device Assemblers and Adjusters" (51-2061).

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

49-9070 Maintenance and Repair Workers, General

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 a building in repair. Duties may involve pipe fitting; HVAC maintenance; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs. Excludes "Facilities Managers" (11-3013) and "Maintenance Workers, Machinery" (49-9043).

Illustrative examples: Building Maintenance Mechanic, Facilities Maintenance Worker, General Maintenance Worker

49-9080 Wind Turbine Service Technicians

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

49-9090 Miscellaneous Installation, Maintenance, and Repair Workers

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 surface-supplied air or scuba equipment 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 "Athletes and Sports Competitors" (27-2021), "Police and Sheriff's Patrol Officers" (33-3051), and "Fishing and Hunting Workers" (45-3031).

Illustrative examples: Marine Diver, Salvage Diver, Scuba Diver, Underwater Welder

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, Fabric Awning Repairer, Fire Extinguisher Installer, Gasoline Pump Installer, Gunsmith, Parachute Repairer, Sail Repairer

51-0000 Production Occupations

51-0000 Production Occupations

51-1000 Supervisors of Production Workers

51-1010 First-Line Supervisors of Production and Operating Workers

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

51-2000 Assemblers and Fabricators

51-2010 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers

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

51-2020 Electrical, Electronics, and Electromechanical Assemblers

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

51-2028 Electrical, electronic, and electromechanical assemblers, except coil winders, tapers, and finishers (OES-specific aggregation of SOC codes 51-2022 and 51-2023)

Assemble or modify electrical, electronic, or electromechanical equipment or devices.

51-2022 Electrical and Electronic Equipment Assemblers (Optional – estimates rolled up to 51-2028)

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 (Optional – estimates rolled up to 51-2028)

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

51-2030 Engine and Other Machine Assemblers

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

51-2040 Structural Metal Fabricators and Fitters

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

51-2050 Fiberglass Laminators and Fabricators

51-2051 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

51-2060 Timing Device Assemblers and Adjusters

51-2061 Timing Device Assemblers and Adjusters

Perform precision assembling or adjusting, within narrow tolerances, of timing devices such as digital clocks or timing devices with electrical or electronic components. Watchmakers are included in “Watch and Clock Repairers” (49-9064).

Illustrative examples: Digital Watch Assembler, Electrical Timing Device Adjuster, Marine Chronometer Assembler

51-2090 Miscellaneous Assemblers and Fabricators (OES-specific aggregation of SOC codes 51-2092 and 51-2099)

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. Includes all other assemblers and fabricators not listed separately.

51-2092 Team Assemblers (Optional – estimates rolled up to 51-2090)

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: Lead Team Assembler, Team Assembly Line Machine Operator, Team Automobile Assembler

51-2099 Assemblers and Fabricators, All Other (Optional – estimates rolled up to 51-2090)
All assemblers and fabricators not listed separately.

Illustrative examples: Air Bag Builder, Crate Builder, Doll Maker

51-3000 Food Processing Workers

51-3010 Bakers

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

51-3020 Butchers and Other Meat, Poultry, and Fish Processing Workers

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 hands 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

Perform nonroutine or precision functions involving the preparation of large portions of meat. Work may include specialized slaughtering tasks, cutting standard or premium cuts of meat for marketing, making sausage, or wrapping meats. Work typically occurs in slaughtering, meat packing, or wholesale establishments. Excludes “Meat, Poultry, and Fish Cutters and Trimmers” (51-3022) who perform routine meat cutting.

Illustrative examples: Halal Meat Packer, Poultry Slaughterer, Shochet

51-3090 Miscellaneous Food Processing Workers

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

51-4000 Metal Workers and Plastic Workers

51-4020 Forming Machine Setters, Operators, and Tenders, Metal and Plastic

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 examples: 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

51-4030 Machine Tool Cutting Setters, Operators, and Tenders, Metal and Plastic

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

51-4040 Machinists

51-4041 Machinists

Set up and operate a variety of machine tools to produce precision parts and instruments out of metal. 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. Machinists who primarily program or operate computer numerically controlled (CNC) equipment are classified in "Computer Numerically Controlled Tool Operators and Programmers" (51-9160).

Illustrative examples: Automotive Machinist, Gear Machinist, Production Machinist

51-4050 Metal Furnace Operators, Tenders, Pourers, and Casters

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

51-4060 Model Makers and Patternmakers, Metal and Plastic

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.

51-4070 Molders and Molding Machine Setters, Operators, and Tenders, Metal and Plastic

51-4071 Foundry Mold and Coremakers

Make or form wax or sand cores or molds used in the production of metal castings in foundries. Excludes "Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic" (51-4072) and "Molders, Shapers, and Casters, Except Metal and Plastic" (51-9195).

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

51-4080 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic

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

51-4110 Tool and Die Makers

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

51-4120 Welding, Soldering, and Brazing Workers

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: Electron Beam Welder Setter, Ultrasonic Welding Machine Operator

51-4190 Miscellaneous Metal Workers and Plastic Workers

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 examples: Shipfitter Apprentice

51-4193 Plating Machine Setters, Operators, and Tenders, Metal and Plastic

Set up, operate, or tend plating machines to coat metal or plastic products with chromium, zinc, copper, cadmium, nickel, or other metal to protect or decorate surfaces. Typically, the product being coated is immersed in molten metal or an electrolytic solution. Excludes "Coating, Painting, and Spraying Machine Setters, Operators, and Tenders" (51-9124).

Illustrative examples: Anodizer, Galvanizer, Nickel Plater

51-4194 Tool Grinders, Filers, and Sharpeners

Perform precision smoothing, sharpening, polishing, or grinding of metal objects.

Illustrative examples: 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

51-5100 Printing Workers

51-5110 Printing Workers

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 Mounter

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

51-6000 Textile, Apparel, and Furnishings Workers

51-6010 Laundry and Dry-Cleaning Workers

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

51-6020 Pressers, Textile, Garment, and Related Materials

51-6021 Pressers, Textile, Garment, and Related Materials

Press or shape articles by hand or machine.

Illustrative examples: Clothes Ironer, Pants Presser, Wool Presser

51-6030 Sewing Machine Operators

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

51-6040 Shoe and Leather Workers

51-6041 Shoe and Leather Workers and Repairers

Construct, decorate, or repair leather and leather-like products, such as luggage, shoes, and saddles. May use hand tools.

Illustrative examples: Cobbler, Saddle Maker, Shoe Repairer, 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

51-6050 Tailors, Dressmakers, and Sewers

51-6051 Sewers, Hand

Sew, join, reinforce, or finish, usually with needle and thread, a variety of manufactured items. Includes weavers and stitchers.

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

51-6060 Textile Machine Setters, Operators, and Tenders

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

51-6090 Miscellaneous Textile, Apparel, and Furnishings Workers

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

51-7000 Woodworkers

51-7010 Cabinetmakers and Bench Carpenters

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

51-7020 Furniture Finishers

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

51-7030 Model Makers and Patternmakers, Wood

51-7031 Model Makers, Wood

Construct full-size and scale wooden precision models of products. Includes wood jig builders and loft workers.

Illustrative examples: 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 examples: Wood Die Maker

51-7040 Woodworking Machine Setters, Operators, and Tenders

51-7041 Sawing Machine Setters, Operators, and Tenders, Wood

Set up, operate, or tend wood sawing machines. May operate computer numerically controlled (CNC) equipment. Includes lead sawyers. Workers who primarily program or operate CNC equipment are classified in "Computer Numerically Controlled Tool Operators and Programmers" (51-9160).

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 computer numerically controlled (CNC) equipment. Workers who primarily program or operate CNC equipment are classified in "Computer Numerically Controlled Tool Operators and Programmers" (51-9160).

Illustrative examples: Wood Dowel Machine Operator, Wood Lathe Operator, Wood Planer

51-7090 Miscellaneous Woodworkers

51-7099 Woodworkers, All Other

All woodworkers not listed separately.

Illustrative examples: Pole Framer, Wood Carver, Wood Casket Assembler

51-8000 Plant and System Operators

51-8010 Power Plant Operators, Distributors, and Dispatchers

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

51-8020 Stationary Engineers and Boiler Operators

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

51-8030 Water and Wastewater Treatment Plant and System Operators

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

51-8090 Miscellaneous Plant and System Operators

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

51-9000 Other Production Occupations

51-9010 Chemical Processing Machine Setters, Operators, and Tenders

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

51-9020 Crushing, Grinding, Polishing, Mixing, and Blending Workers

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

51-9030 Cutting Workers

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 “Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic” (51-4031), “Textile Cutting Machine Setters, Operators, and Tenders” (51-6062), and “Woodworking Machine Setters, Operators, and Tenders” (51-7040).

Illustrative examples: Glass Cutting Machine Operator, Insulation Cutter, Rubber Trimmer

51-9040 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders

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 “Shoe Machine Operators and Tenders” (51-6042) and “Paper Goods Machine Setters, Operators, and Tenders” (51-9196).

Illustrative examples: Brick Maker, Rubber Extrusion Operator, Sugar Presser

51-9050 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders

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

51-9060 Inspectors, Testers, Sorters, Samplers, and Weighers

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, Petroleum Sampler

51-9070 Jewelers and Precious Stone and Metal Workers

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 semiprecious stones for jewelry and related products.

Illustrative examples: Diamond Setter, Gemologist, Goldsmith

51-9080 Dental and Ophthalmic Laboratory Technicians and Medical Appliance Technicians

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, 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, Manufacturing Orthopedic Technologist, 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

51-9110 Packaging and Filling Machine Operators and Tenders

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

51-9120 Painting Workers

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

51-9124 Coating, Painting, and Spraying Machine Setters, Operators, and Tenders

Set up, operate, or tend spraying or rolling 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. Includes painters of transportation vehicles such as painters in auto body repair facilities. Excludes “Plating Machine Setters, Operators, and Tenders, Metal and Plastic” (51-4193).

Illustrative examples: Auto Painter, Electrostatic Paint Operator, Lacquer Spray Booth Operator, Railroad Car Painter

51-9140 Semiconductor Processing Technicians

51-9141 Semiconductor Processing Technicians

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

51-9150 Photographic Process Workers and Processing Machine Operators

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

51-9160 Computer Numerically Controlled Tool Operators and Programmers

51-9161 Computer Numerically Controlled Tool Operators

Operate computer-controlled tools, machines, or robots to machine or process parts, tools, or other work pieces made of metal, plastic, wood, stone, or other materials. May also set up and maintain equipment.

Illustrative examples: Computer Numerically Controlled (CNC) Machinist, Computer Numerically Controlled (CNC) Milling Machine Operator, Computer Numerically Controlled (CNC) Shot Peening Operator, Jig Boring Machine Operator, Welding Robot Operator

51-9162 Computer Numerically Controlled Tool Programmers

Develop programs to control machining or processing of materials by automatic machine tools, equipment, or systems. May also set up, operate, or maintain equipment.

Illustrative examples: Computer Numerically Controlled (CNC) Programmer, Numerical Control Programmer, Numerical Tool Programmer

51-9190 Miscellaneous Production Workers

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, Retreader, 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. Excludes "Packers and Packagers, Hand" (53-7064).

53-0000

Transportation and

Material Moving

Occupations

53-0000 Transportation and Material Moving Occupations

53-1000 Supervisors of Transportation and Material Moving Workers

53-1040 First-Line Supervisors of Transportation and Material Moving Workers

53-1041 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

53-1044 First-Line Supervisors of Passenger Attendants

Supervise and coordinate activities of passenger attendants. Includes supervisors of "Flight Attendants" (53-2031).

Illustrative examples: Chief Ship Steward, Flight Service Manager

53-1048 First-Line Supervisors of Transportation and Material- Moving workers, except Aircraft Cargo Handling Supervisors and First-Line Supervisors of Passenger Attendants (OES-specific aggregation of SOC codes 53-1042 and 53-1043)

Directly supervise and coordinate the activities of helpers, laborers, and material movers; or transportation and material-moving machine and vehicle operators and helpers.

53-1042 First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand (Optional – estimates rolled up to 53-1048)

Directly supervise and coordinate the activities of helpers, laborers, or material movers, hand.

Illustrative examples: Material Handling Crew Supervisor, Warehouse Supervisor

53-1043 First-Line Supervisors of Material-Moving Machine and Vehicle Operators (Optional – estimates rolled up to 53-1048)

Directly supervise and coordinate activities of material-moving machine and vehicle operators and helpers.

Illustrative examples: Crane Crew Supervisor, Truck Driver Supervisor

53-1049 First-Line Supervisors of Transportation Workers, All Other

All first-line supervisors of transportation workers not listed separately.

Illustrative examples: Gas Station Supervisor

53-2000 Air Transportation Workers

53-2010 Aircraft Pilots and Flight Engineers

53-2011 Airline Pilots, Copilots, and Flight Engineers

Pilot and navigate the flight of fixed-wing aircraft, usually on scheduled air carrier routes, for the transport of passengers and cargo. Requires Federal Air Transport certificate and rating for specific aircraft type used. Includes regional, national, and international airline pilots and flight instructors of airline pilots. Excludes "Electro-Mechanical and Mechatronics Technologists and Technicians" (17-3024).

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-wing 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. Excludes "Electro-Mechanical and Mechatronics Technologists and Technicians" (17-3024).

Illustrative examples: Aerial Crop Duster, Charter Pilot (Commercial Pilot Certificate Required), Flight Instructor (Commercial Pilots), Helicopter Pilot

53-2020 Air Traffic Controllers and Airfield Operations Specialists

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

53-2030 Flight Attendants

53-2031 Flight Attendants

Monitor safety of the aircraft cabin. Provide services to airline passengers, explain safety information, serve food and beverages, and respond to emergency incidents.

Illustrative examples: Airline Flight Attendant, Airplane Flight Attendant

53-3000 Motor Vehicle Operators

53-3010 Ambulance Drivers and Attendants, Except Emergency Medical Technicians

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

53-3030 Driver/Sales Workers and Truck Drivers

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. Excludes "Coin, Vending, and Amusement Machine Servicers and Repairers" (49-9091) and "Light Truck Drivers" (53-3033).

Illustrative examples: Newspaper Delivery Driver, 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 26,001 pounds Gross Vehicle Weight (GVW). May be required to unload truck. Requires commercial drivers' license. Includes tow truck drivers. Excludes "Refuse and Recyclable Material Collectors" (53-7081).

Illustrative examples: Auto Carrier Driver, Cement Truck Driver, Dump Truck Driver, Garbage Truck Driver

53-3033 Light Truck Drivers

Drive a light vehicle, such as a truck or van, with a capacity of less than 26,001 pounds Gross Vehicle Weight (GVW), primarily to pick up merchandise or packages from a distribution center and deliver. May load and unload vehicle. Excludes "Couriers and Messengers" (43-5021) and "Driver/Sales Workers" (53-3031).

Illustrative examples: Grocery Light Truck Driver, Parcel Truck Driver

53-3050 Passenger Vehicle Drivers

53-3051 Bus Drivers, School

Drive a school bus to transport students. Ensure adherence to safety rules. May assist students in boarding or exiting.

Illustrative examples: School Bus Operator, Special Education Bus Driver

53-3052 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

53-3053 Shuttle Drivers and Chauffeurs

Drive a motor vehicle to transport passengers on a planned or scheduled basis. May collect a fare. Includes nonemergency medical transporters and hearse drivers. Excludes "Ambulance Drivers and Attendants, Except Emergency Medical Technicians" (53-3011) and "Taxi Drivers" (53-3054).

Illustrative examples: Airport Shuttle Driver, Courtesy Van Driver, Hotel Shuttle Driver, Nonemergency Medical Transporter

53-3054 Taxi Drivers

Drive a motor vehicle to transport passengers on an unplanned basis and charge a fare, usually based on a meter. Excludes "Shuttle Drivers and Chauffeurs" (53-3053).

Illustrative examples: Cab Driver, Rideshare Cab Driver

53-3090 Miscellaneous Motor Vehicle Operators

53-3099 Motor Vehicle Operators, All Other

All motor vehicle operators not listed separately.

Illustrative examples: Ice-Resurfacing Machine Operators, Motorcycle Deliverer, Street Cleaning Equipment Operator

53-4000 Rail Transportation Workers

53-4010 Locomotive Engineers and Operators

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. Excludes "Engineers" (17- 2011 through 17-2199).

Illustrative examples: Railroad Engineer, Train Engineer

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

53-4020 Railroad Brake, Signal, and Switch Operators and Locomotive Firers

53-4022 Railroad Brake, Signal, and Switch Operators and Locomotive Firers

Operate or monitor railroad track switches or locomotive instruments. May couple or uncouple rolling stock to make up or break up trains. Watch for and relay traffic signals. May inspect couplings, air hoses, journal boxes, and hand brakes. May watch for dragging equipment or obstacles on rights-of-way.

Illustrative examples: Diesel Locomotive Firer, Dinkey Engine Firer, Railway Switch Operator, Switch Coupler, Train Brake Operator

53-4030 Railroad Conductors and Yardmasters

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

53-4040 Subway and Streetcar Operators

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

53-4090 Miscellaneous Rail Transportation Workers

53-4099 Rail Transportation Workers, All Other

All rail transportation workers not listed separately.

Illustrative examples: Railway Equipment Operator, Retarder Operator, Transfer Table Operator

53-5000 Water Transportation Workers

53-5010 Sailors and Marine Oilers

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

53-5020 Ship and Boat Captains and Operators

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

53-5030 Ship Engineers

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. Excludes "Engineers" (17-2000).

Illustrative examples: Barge Engineer, Ferry Engineer, Tugboat Engineer

53-6000 Other Transportation Workers

53-6010 Bridge and Lock Tenders

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

53-6020 Parking Attendants

53-6021 Parking Attendants

Park vehicles or issue tickets for customers in a parking lot or garage. May park or tend vehicles in environments such as a car dealership or rental car facility. May collect fee.

Illustrative examples: Parking Ramp Attendant, Valet Parker

53-6030 Transportation Service Attendants

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, refill antifreeze, or replace lights or other accessories, such as windshield wiper blades or fan belts. May repair or replace tires.

Excludes "Cashiers" (41-2011).

Illustrative examples: Gas and Oil Servicer, Gas Pump Attendant, Service Station Attendant

53-6032 Aircraft Service Attendants

Service aircraft with fuel. May de-ice aircraft, refill water and cooling agents, empty sewage tanks, service air and oxygen systems, or clean and polish exterior.

Illustrative examples: Aircraft De-Icer, Aircraft Refueler, Airplane Refueler

53-6040 Traffic Technicians

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

53-6050 Transportation Inspectors

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

53-6060 Passenger Attendants

53-6061 Passenger Attendants

Provide services to ensure the safety of passengers aboard ships, buses, trains, or within the station or terminal. Perform duties such as explaining the use of safety equipment, serving meals or beverages, or answering questions related to travel. Excludes "Baggage Porters and Bellhops" (39-6011) and "Flight Attendants" (53-2031).

Illustrative examples: Ship Steward, Train Attendant

53-6090 Miscellaneous Transportation Workers

53-6099 Transportation Workers, All Other

All transportation workers not listed separately.

Illustrative examples: Rickshaw Driver

53-7000 Material Moving Workers

53-7010 Conveyor Operators and Tenders

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

53-7020 Crane and Tower Operators

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.

Illustrative examples: Boom Crane Operator, Cherry Picker Operator, Coal Tower Operator

53-7030 Dredge Operators

53-7031 Dredge Operators

Operate dredge to remove sand, gravel, or other materials in order to excavate and maintain navigable channels in waterways.

Illustrative examples: Dredger

53-7040 Hoist and Winch Operators

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 examples: Winch Derrick Operator

53-7050 Industrial Truck and Tractor Operators

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

53-7060 Laborers and Material Movers

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, luggage, or other materials, or perform other general labor. Includes all manual laborers not elsewhere classified. Excludes "Construction Laborers" (47-2061) and "Helpers, Construction Trades" (47-3011 through 47-3019). Excludes "Material Moving Workers" (53-7011 through 53-7199) who use power equipment.

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

53-7065 Stockers and Order Fillers

Receive, store, and issue merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May operate power equipment to fill orders. May mark prices on merchandise and set up sales displays. Excludes "Shipping, Receiving, and Inventory Clerks" (43-5071), "Laborers and Freight, Stock, and Material Movers, Hand" (53-7062), and "Packers and Packagers, Hand" (53-7064).

Illustrative examples: Night Stocker, Store Stocker, Warehouse Stocker

53-7070 Pumping Station Operators

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 Pumpers

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 Pumpers

Operate power pumps and auxiliary equipment to produce flow of oil or gas from wells in oil field.

Illustrative examples: Oil Well Pumper

53-7080 Refuse and Recyclable Material Collectors

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

53-7120 Tank Car, Truck, and Ship Loaders

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

53-7190 Miscellaneous Material Moving Workers

53-7199 Material Moving Workers, All Other

All material moving workers not listed separately.

Illustrative examples: Bulldozer Operator, Freight Elevator Operator, Shovel Operator