

Occupational Employment Statistics
Dictionary of Occupations
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I. MANAGERIAL AND ADMINISTRATIVE OCCUPATIONS

10000 MANAGERIAL AND ADMINISTRATIVE OCCUPATIONS

Include in this division top and middle managers, administrators, and executives. Primary duties are policy making, planning, staffing, directing, or controlling the activities of industrial, commercial, governmental, or other establishments.....

Occupations in this section are organized as follows: Staff and administrative managerial; industry-specific managerial; and a residual "All Other" category.....

Special instructions: Exclude first-line supervisors and managers with first-line duties. First-line supervisors or managers/supervisors in the professional, paraprofessional or technical fields should be reported with the workers they supervise. All other supervisors or managers/supervisors should be reported in the categories provided in each occupational division. Exclude owners and partners of unincorporated firms. Include only managers and administrators who are exempt from the minimum wage and overtime provision of the Fair Labor Standards Act.

A. STAFF AND ADMINISTRATIVE SPECIALTY MANAGERIAL OCCUPATIONS

13002 FINANCIAL MANAGERS

Plan, organize, direct, control, or coordinate the financial activities of an organization. Include managers who negotiate general policy with financial or other institutions or managers in banks, or similar financial institutions, who advise on credit and investment policy.

13005 PERSONNEL, TRAINING, AND LABOR RELATIONS MANAGERS

Plan, organize, direct, control, or coordinate the personnel, training, or labor relations activities of an organization. Work may involve establishing employer/employee relations policies; directing the selection, training, and evaluation of employees; administering benefits, safety, and recreation programs; developing wage and salary schedules; coordinating collective bargaining activities; and advising on labor contract administration.

13008 PURCHASING MANAGERS

Plan, organize, direct, control, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, or services. Include Wholesale or Retail Trade Merchandising Managers.

13011 MARKETING, ADVERTISING, AND PUBLIC RELATIONS MANAGERS

Formulate marketing policies, direct sales activities, and plan, organize, and direct advertising and public relations activities for a department, an entire organization, or on an account basis.

13014 ADMINISTRATIVE SERVICES MANAGERS

Plan, organize, direct, control, or coordinate the supportive services department of a business, agency, or organization. Managers who spend less than 80 percent of their time in administrative services should be classified in another appropriate managerial category. Include Property Managers and Contract Administrators. Exclude Procurement Managers.

13017 ENGINEERING, MATHEMATICAL, AND NATURAL SCIENCES MANAGERS

Plan, organize, direct, or coordinate activities in such fields as architecture, electronic data processing, engineering, life sciences, physical sciences, statistics, and systems analysis. These persons spend the greatest portion of their time in managerial work for which a background consistent with that described for engineers, mathematicians, or natural scientists is required.

**B. LINE AND MIDDLE MANAGEMENT INDUSTRY SPECIFIC
MANAGERIAL OCCUPATIONS****15002 POSTMASTERS AND MAIL SUPERINTENDENTS**

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

15005 EDUCATION ADMINISTRATORS

Plan, organize, direct, control, or coordinate the educational activities of colleges and universities; elementary, secondary, or postsecondary schools; vocational or technical schools; or training and instructional organizations (or programs) in private business or other agencies.

15008 MEDICINE AND HEALTH SERVICES MANAGERS

Plan, organize, direct, control, or coordinate medicine and health services in establishments such as hospitals, clinics, or similar organizations.

15011 PROPERTY AND REAL ESTATE MANAGERS AND ADMINISTRATORS

Plan, organize, direct, control, or coordinate buying, selling, or leasing activities of real estate properties for clients or employer. Include managers of rented or leased housing units, buildings, or land (including rights-of-way). Exclude workers whose duties are not primarily managerial. Workers who are engaged primarily in direct buying, selling, or renting of real estate should be reported as Sales Workers.

15014 INDUSTRIAL PRODUCTION MANAGERS

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

15017 CONSTRUCTION MANAGERS

Plan, organize, direct, control, or coordinate, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems. Include specialized construction fields such as carpentry or plumbing. General Managers of large construction contracting firms should be reported as General Managers and Top Executives.

15021 MINING, QUARRYING, AND OIL AND GAS WELL DRILLING MANAGERS

Plan, organize, direct, control, or coordinate, usually through subordinate supervisory personnel, the operations of mines, quarries, oil or gas wells, or other similar operations that extract natural deposits.

15023 COMMUNICATIONS, TRANSPORTATION, AND UTILITIES OPERATIONS MANAGERS

Plan, organize, direct, control, or coordinate activities related to: Communications by telephone, telegraph, radio, or television; transporting people or goods by air, highway, railway, water, or pipeline; managing transportation facilities, such as airports, harbors, or terminals; managing warehousing and storage facilities; or supplying electricity, gas, water, steam, or sanitation services. General Managers of large establishments or operations should be reported as General Managers and Top Executives.

15026 FOOD SERVICE AND LODGING MANAGERS

Plan, organize, direct, control, or coordinate activities of an organization or department that serves food and beverages and/or provides lodging and other accommodations. Include Food and Beverage Directors.

15031 NURSERY AND GREENHOUSE MANAGERS

Plan, organize, direct, control, or coordinate activities of workers engaged in propagating, cultivating, and harvesting horticultural specialties, such as trees, shrubs, flowers, mushrooms, and other plants. Work may involve training new employees in gardening techniques, inspecting facilities for signs of disrepair, and delegating repair duties to staff.

[This occupation was added in 1992.]

15032 LAWN SERVICE MANAGERS

Plan, organize, direct, control, or coordinate activities of workers engaged in pruning trees and shrubs, cultivating lawns, and applying pesticides and other chemicals according to service contract specifications. Work may involve reviewing contracts to ascertain service, machine, and work force requirements; answering inquiries from potential customers regarding methods, material, and price ranges; and preparing service estimates according to labor, material, and machine costs.

[This occupation was added in 1992.]

C. OTHER MANAGERIAL AND ADMINISTRATIVE OCCUPATIONS

19002 PUBLIC ADMINISTRATION CHIEF EXECUTIVES, LEGISLATORS, AND GENERAL ADMINISTRATORS

Formulate and establish government policy and develop Federal, State, or local laws, rules, and regulations. General Administrators who do not have overall responsibility for the State or a local government entity (e.g., county, city, town, or township) should be reported as General Managers and Top Executives.

19005 GENERAL MANAGERS AND TOP EXECUTIVES

Top and middle managers whose duties and responsibilities are too diverse and general in nature to be classified in any functional or line area of management and administration. These managers generally work through departmental or subordinate executives.

19999 ALL OTHER MANAGERS AND ADMINISTRATORS

All other managers and administrators not classified separately above.

II. PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL OCCUPATIONS

20000 PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL OCCUPATIONS

Include in this division persons concerned with the theoretical or practical aspects of such fields as science, art, education, law, and business relations where substantial postsecondary educational preparation or equivalent on-the-job training or experience is required..... Occupations in this section are ordered as follows: General management support; engineering and scientific; data processing and mathematical; social sciences, law and related; teaching and related; medicine and health; writing, art and related; and a residual "All Other" category..... Special instructions: Quality Control Workers are classified according to the nature of the quality control process (e.g., chemical, mechanical, or biological). Thus, an Engineer engaged in quality control work of a chemical nature should be reported as a Chemical Engineer..... Unlike the other divisions, first-line supervisors and managers with first-line duties are included with the workers they supervise. Administrative Assistants are classified according to the nature of work they provide (i.e., clerical support vs. management support).

A. MANAGEMENT SUPPORT OCCUPATIONS

1. ACCOUNTANTS, AUDITORS, AND OTHER FINANCIAL SPECIALISTS

21100 ACCOUNTANTS, AUDITORS, AND OTHER FINANCIAL SPECIALISTS

Plan and administer accounting services; advise on tax and accountancy problems; conduct audits; and plan and administer other financial activities such as budget analysis, mortgage approval, credit and underwriting analysis, and foreign exchange trading.

21102 INSURANCE UNDERWRITERS

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

[This occupation's title was changed from UNDERWRITERS to INSURANCE UNDERWRITERS in 1996.]

21105 CREDIT ANALYSTS

Analyze current 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 this credit information for use in decision-making.

21108 LOAN OFFICERS AND COUNSELORS

Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and methods of payments. Include Mortgage Loan Officers or Agents, Collection Analysts, and Loan Servicing Officers.

21111 TAX PREPARERS

Prepare tax returns for individuals or small businesses but do not have the background or responsibilities of an accredited accountant or certified public accountant. May work for established tax return firm.

21114 ACCOUNTANTS AND AUDITORS

Examine, analyze, and interpret accounting records for the purpose of giving advice or preparing statements. Install or advise on systems of recording costs or other financial and budgetary data.

21117 BUDGET ANALYSTS

Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Examine requests for budget revisions, recommend approval or denial, and draft correspondence. Analyze monthly department budgeting and accounting reports for the purpose of maintaining expenditure controls. Provide technical assistance to officials in the preparation of budgets.

21199 ALL OTHER FINANCIAL SPECIALISTS

All other financial specialists not classified separately above.

2. PURCHASING AGENTS AND BUYERS**21302 WHOLESALE AND RETAIL BUYERS, EXCEPT FARM PRODUCTS**

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

21305 PURCHASING AGENTS AND BUYERS, FARM PRODUCTS

Purchase farm products either for further processing or resale. Include Christmas Tree Contractors, Grain Brokers and Market Operators, Grain Buyers, and Tobacco Buyers.

21308 PURCHASING AGENTS, EXCEPT WHOLESALE, RETAIL, AND FARM PRODUCTS

Purchase raw or semi-finished materials for manufacturing. Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Include Contract Specialists, Field Contractors, Purchasers, Price Analysts, Tooling Coordinators, and Media Buyers.

3. PERSONNEL, TRAINING, LABOR RELATIONS SPECIALISTS, AND RELATED WORKERS**21502 CLAIMS TAKERS, UNEMPLOYMENT BENEFITS**

Interview unemployed workers and compile data to determine eligibility for unemployment benefits.

21505 SPECIAL AGENTS, INSURANCE

Recruit independent insurance sales agents in field and maintain contact between them and home office. Advise agents on matters pertaining to conduct of business such as cancellations, overdue accounts, technical problems, claims procedures, new business contacts, and new products. May gather information for underwriter.

21508 EMPLOYMENT INTERVIEWERS, PRIVATE OR PUBLIC EMPLOYMENT SERVICE

Interview job applicants in employment office and refer them to prospective employers for consideration. Search application files, notify selected applicants of job openings, and refer qualified applicants to prospective employers. Contact employers to verify referral results. Record and evaluate various pertinent data.

21511 PERSONNEL, TRAINING, AND LABOR RELATIONS SPECIALISTS

Conduct programs of recruitment, selection, placement, training, promotion, welfare, safety, compensation, or separation of employees. May specialize in specific areas such as labor-management relations, counseling, job analysis, position classification, training, or compensation. Exclude occupations in personnel research and in administration of testing and counseling programs for which a background in psychology is required. Exclude Employment Interviewers, Private or Public Employment Service.

4. OTHER MANAGEMENT SUPPORT WORKERS**21902 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.

21905 MANAGEMENT ANALYSTS

Review, analyze, and suggest improvements to business and organizational systems to assist management in operating more efficiently and effectively. Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals. Exclude Computer Systems Analysts.

21908 CONSTRUCTION AND BUILDING INSPECTORS

Inspect new or remodeled construction to determine its soundness and compliance to 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 elevators.

21911 COMPLIANCE OFFICERS AND ENFORCEMENT INSPECTORS, EXCEPT CONSTRUCTION

Enforce adherence to policies, procedures, or regulations and advise on standards. May inspect and enforce regulations on such matters as health, safety, food, immigration, licensing, or interstate commerce. May be employed in public or private sector.

21914 TAX EXAMINERS, COLLECTORS, AND REVENUE AGENTS

Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.

21917 ASSESSORS

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

21921 CLAIMS EXAMINERS, PROPERTY AND CASUALTY INSURANCE

Review settled insurance claims to determine that payments and settlements have been made in accordance with company practices and procedures, insuring that adjusters have followed proper methods. Report overpayments, underpayments, and other irregularities. Confer with legal counsel on claims requiring litigation.

21999 ALL OTHER MANAGEMENT SUPPORT WORKERS

All other management support workers not classified separately above.

B. ENGINEERS AND RELATED OCCUPATIONS**1. ENGINEERS****22100 ENGINEERS**

Include persons engaged in the practical application of physical laws and principles of engineering for the development and utilization of machines, materials, instruments, processes, and services. Include Engineers in research, development, production, technical services, and other positions which require knowledge normally obtained through completion of a 4-year college engineering program. Exclude persons trained in engineering but currently working in positions that do not require engineering training. Exclude Sales Engineers and report them as Sales Workers.

22102 AERONAUTICAL AND ASTRONAUTICAL ENGINEERS

Perform a variety of engineering work 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.

22105 METALLURGISTS AND METALLURGICAL, CERAMIC, AND MATERIALS ENGINEERS

Metallurgists and Metallurgical Engineers: Investigate properties of metals and develop methods to produce new alloys, usages, and processes of extracting metals from their ores. Include Physical and Extractive Metallurgists. Ceramic Engineers: Conduct research, design machinery, and develop processing techniques related to the manufacturing of ceramic products. Materials Engineers: Evaluate, plan, and implement processes to develop new materials to meet product specifications, performance standards, and costs.

22108 MINING ENGINEERS, INCLUDING MINE SAFETY

Determine the location and plan the extraction of coal, metallic ores, nonmetallic minerals, and building materials, such as stone and gravel. Work involves conducting preliminary surveys of deposits or undeveloped mines and planning their development; examining deposits or mines to determine whether they can be worked at a profit; making geological and topographical surveys; evolving methods of mining best suited to character, type, and size of deposits; and supervising mining operations.

22111 PETROLEUM ENGINEERS

Devise methods to improve oil and gas well production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice to achieve economical and satisfactory progress.

22114 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.

22117 NUCLEAR ENGINEERS

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

22121 CIVIL ENGINEERS, INCLUDING TRAFFIC

Perform engineering duties in planning, designing, and overseeing construction and maintenance of structures and facilities such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Include Traffic Engineers who specialize in studying vehicular and pedestrian traffic conditions.

22123 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.

22126 ELECTRICAL AND ELECTRONIC ENGINEERS

Design, develop, test, and supervise the manufacturing and installation of electrical and electronic equipment, components, or systems for commercial, industrial, military, or scientific use. Exclude Computer Engineers.

22127 COMPUTER ENGINEERS

Analyze data processing requirements to plan EDP system to provide system capabilities required for projected work loads. Plan layout and installation of new system or modification of existing system. May set up and control analog or hybrid computer systems to solve scientific and engineering problems.

[This occupation was added in 1989.]

22128 INDUSTRIAL ENGINEERS, EXCEPT SAFETY

Perform engineering duties in planning and overseeing the utilization of production facilities and personnel in department or other subdivision of industrial establishment. Plan equipment layout, work flow, and accident prevention measures to maintain efficient and safe utilization of plant facilities. Plan and oversee work, study, and training programs to promote efficient worker utilization. Develop and oversee quality control, inventory control, and production record systems. Exclude Industrial Product Safety Engineers.

22132 SAFETY ENGINEERS, EXCEPT MINING

Apply knowledge of industrial processes, mechanics, chemistry, psychology, and industrial health and safety laws to prevent or correct injurious products or environmental conditions and minimize effects of human traits or product characteristics that create hazards to life and property or reduce worker morale and efficiency. Include Industrial Product Safety Engineers.

22135 MECHANICAL ENGINEERS

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

22138 MARINE ENGINEERS

Design, develop, and take responsibility for the installation of ship machinery and related equipment including propulsion machines and power supply systems. Exclude Marine Architects.

22199 ALL OTHER ENGINEERS

All other engineers not classified separately above.

2. ARCHITECTS AND SURVEYING AND MAPPING SCIENTISTS**22302 ARCHITECTS, EXCEPT LANDSCAPE AND MARINE**

Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.

22305 MARINE ARCHITECTS

Design and oversee construction and repair of marine craft and floating structures such as ships, barges, tugs, dredges, submarines, torpedoes, floats, and buoys. May confer with Marine Engineers.

22308 LANDSCAPE ARCHITECTS

Plan and design land areas for such projects as parks and other recreational facilities, airports, highways, hospitals, schools, land subdivisions, and commercial, industrial, and residential sites.

22311 SURVEYORS AND MAPPING SCIENTISTS

Use surveying, engineering, and scientific data to determine and identify fixed points or boundaries, and prepare maps for legal and design purposes. Provide data relevant to the shape, contour, gravitation, location, or dimension of land or land features for construction, mining, land evaluation, or other purposes.

3. ENGINEERING AND RELATED TECHNICIANS AND TECHNOLOGISTS**22500 ENGINEERING AND RELATED TECHNICIANS AND TECHNOLOGISTS**

Workers who assist Engineers, Architects, or Surveyors and Mapping Scientists in laboratory or production activities, such as research, development, data collection, equipment or machine design, testing, quality control, and efficiency studies. Normally these technicians work under the general supervision of Engineers, Architects, or Surveyors and Mapping Scientists, utilizing basic knowledge of principles and techniques in specific areas of engineering, science, mathematics, drafting, surveying, and mapping. Exclude Repair Technicians whose work is primarily maintenance, and not developmental, and report them as Mechanics and Repairers.

22502 CIVIL ENGINEERING TECHNICIANS AND TECHNOLOGISTS

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.

22505 ELECTRICAL AND ELECTRONIC ENGINEERING TECHNICIANS AND TECHNOLOGISTS

Apply electrical and electronic theory and related knowledge to design, build, test, repair, and modify developmental, experimental, or production electrical equipment in industrial or commercial plants for subsequent use by engineering personnel in making engineering design and evaluation decisions.

22508 INDUSTRIAL ENGINEERING TECHNICIANS AND TECHNOLOGISTS

Study and record time, motion, method, and speed involved in performance of production, maintenance, clerical, and other worker operations for such purposes as establishing standard production rates or improving efficiency. Usually work under the direction of engineering staff.

22511 MECHANICAL ENGINEERING TECHNICIANS AND TECHNOLOGISTS

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

22514 DRAFTERS

Prepare working plans and detail drawings from rough or detailed sketches and notes for engineering or manufacturing purposes according to specified dimensions. Utilize knowledge of various machines, engineering practices, mathematics, building materials, and other physical sciences to complete drawings. May use computer-assisted drafting (CAD) equipment and software.

22517 ESTIMATORS AND DRAFTERS, UTILITIES

Develop specifications and instructions for installation of voltage transformers, overhead or underground cables, and related electrical equipment used to conduct electrical energy from transmission lines or high-voltage distribution lines to consumers.

22521 SURVEYING AND MAPPING TECHNICIANS

Perform surveying and mapping duties to obtain data pertaining to angles, elevations, points, and contours used for construction, mapmaking, boundary location, mining, or other purposes. Calculate mapmaking information from field notes using reference tables. Draw maps of geographical areas from source data such as surveying notes, aerial photography, or other maps to show natural and constructed features, political boundaries, and other features. Draw topographical maps from aerial photographs or verify accuracy and completeness of topographical maps. Exclude Surveyors, Cartographers, and Geodesists.

22599 ALL OTHER ENGINEERING AND RELATED TECHNICIANS AND TECHNOLOGISTS

All other engineering and related technicians and technologists not classified separately above.

C. NATURAL SCIENTISTS AND RELATED WORKERS**1. PHYSICAL SCIENTISTS****24100 PHYSICAL SCIENTISTS**

Workers engaged in research, development, production, or providing technical services pertaining to the physical universe (e.g., Geologists, Chemists, and Physicists). Work may focus on increasing the basic knowledge of the physical universe or the application of these scientific principles and theories to specific problems and situations. Physical Scientists are engaged in scientific work which requires knowledge normally obtained by completion of a 4-year physical sciences college program. Exclude Biophysicists and Biochemists and report them as Life Scientists.

24102 PHYSICISTS AND ASTRONOMERS

Physicists: Conduct research into the phases of physical phenomena; develop theories and laws on the basis of observation and experiments; and devise methods to apply laws and theories to industry and other fields. Astronomers: Observe, research, and interpret celestial and astronomical phenomena to increase basic knowledge and apply such information to practical problems. Exclude Biophysicists.

24105 CHEMISTS, EXCEPT BIOCHEMISTS

Conduct qualitative and quantitative chemical analyses or chemical experiments in laboratories for quality or process control or to develop new products or knowledge.

24108 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. Include weather analysts and forecasters who work for radio and TV stations and whose functions require the detailed knowledge of a meteorologist.

24111 GEOLOGISTS, GEOPHYSICISTS, AND OCEANOGRAPHERS

Geologists: Study composition, structure, and history of the earth's crust; examine rocks, minerals, and fossil remains to identify and determine the sequence of processes affecting the development of the earth; apply knowledge of chemistry, physics, biology, and mathematics to explain these phenomena and to help locate mineral and petroleum deposits and underground water resources; prepare geologic reports and maps; and interpret research data to recommend further study or action. Geophysicists: Study physical aspects of the earth, including the atmosphere and hydrosphere; investigate and measure seismic, gravitational, electrical, thermal, and magnetic forces affecting the earth, utilizing principles of physics, mathematics, and chemistry. Oceanographers: Study topographical features, rock and sediment of the ocean bottom, and physical aspects of oceans, such as density, temperature, and sound.

24199 ALL OTHER PHYSICAL SCIENTISTS

All other physical scientists not classified separately above.

2. LIFE SCIENTISTS**24300 LIFE SCIENTISTS**

Engage in research, development, production, or providing technical services pertaining to the life sciences (e.g., Agricultural, Biological, and Medical Scientists). Work may focus on increasing the basic knowledge of life sciences or the application of scientific principles and theories to specific problems and situations. Life Scientists engage in scientific work which requires knowledge normally obtained by completion of a 4-year life sciences college program. Include Biophysicists and Biochemists.

24302 FORESTERS AND CONSERVATION SCIENTISTS

Plan, develop, and control environmental factors affecting forests, range land, and farm land and their resources for economic and recreational purposes through activities such as researching soil erosion, conducting fire prevention programs, reforestation, and preservation of natural resources.

24305 AGRICULTURAL AND FOOD SCIENTISTS

Research problems related to agriculture, animal husbandry, and horticulture, including the development of improved methods of cultivation, the processing, handling, and storing of products, and related activities.

24308 BIOLOGICAL SCIENTISTS

Research problems dealing with life processes. Include Biologists, Biochemists, Biophysicists, Pathologists, Bacteriologists, Toxicologists, and Zoologists. Exclude Medical and Agricultural Scientists.

24311 MEDICAL SCIENTISTS

Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation or other research, production, technical writing, or related activities. Include Medical Scientists such as Physicians, Dentists, Public Health Specialists, Pharmacologists, and Medical Pathologists. Exclude practitioners who provide medical care or dispense drugs.

24399 ALL OTHER LIFE SCIENTISTS

All other life scientists not classified separately above.

3. PHYSICAL AND LIFE SCIENCE TECHNICIANS AND TECHNOLOGISTS**24500 PHYSICAL AND LIFE SCIENCE TECHNICIANS AND TECHNOLOGISTS**

Assist physical and life scientists in laboratory and production activities, such as laboratory analysis; quality control; design and maintenance of special apparatus, plant, and equipment; and development of industrial processes. Normally these technicians work under the direct supervision of a Physical or Life Scientist and assist in those activities which are more routine. Exclude Medical and Dental Technicians and Technologists.

24502 BIOLOGICAL, AGRICULTURAL, AND FOOD TECHNICIANS AND TECHNOLOGISTS, EXCEPT HEALTH

Assist scientists in laboratory and production activities by performing tasks necessary to experiment, test, and develop new and improved methods in production, preservation, and processing of plant and animal life.

24505 CHEMICAL TECHNICIANS AND TECHNOLOGISTS, EXCEPT HEALTH

Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for purposes such as 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.

24508 NUCLEAR TECHNICIANS AND TECHNOLOGISTS

Assist scientists in both laboratory and production activities by performing technical tasks involving nuclear physics, primarily in operation, maintenance, production, and quality control support activities. Work includes design, production, or maintenance of apparatus or products such as plant and equipment used for the release, control, and utilization of nuclear energy; development of industrial nuclear processes; and design, construction, operation, maintenance, or repair of nuclear plants.

24511 PETROLEUM TECHNICIANS AND TECHNOLOGISTS

Assist scientists in the use of electrical, sonic, or nuclear measuring instruments in both laboratory and production activities to obtain data indicating potential sources of metallic ore, gas, or petroleum. Analyze mud and drill cuttings to determine petroleum and mineral content and physical characteristics. Chart pressure, temperature, and other characteristics of oil and gas wells, bore holes, or producing wells. Investigate and collect information concerning oil well drilling operations, geological and geophysical prospecting, and land and lease contracts from other oil fields that lead to the possible discovery of new oil fields.

24599 ALL OTHER PHYSICAL AND LIFE SCIENCE TECHNICIANS AND TECHNOLOGISTS

All other physical and life science technicians and technologists not classified separately above.

D. COMPUTER, MATHEMATICAL, OPERATIONS RESEARCH, AND RELATED OCCUPATIONS**1. COMPUTER SCIENTISTS AND RELATED WORKERS****25102 SYSTEMS ANALYSTS, ELECTRONIC DATA PROCESSING**

Analyze business, scientific, and technical problems for application to electronic data processing systems. Exclude persons working primarily as Engineers, Mathematicians, or Scientists.

25103 DATA BASE ADMINISTRATORS

Coordinate physical changes to computer data bases and code, test, and implement the data base applying knowledge of data base management systems. May design logical and physical data bases and coordinate data base development as part of a project team.
[This occupation was added in 1994.]

25104 COMPUTER SUPPORT SPECIALISTS

Provide technical assistance and training to computer system users. Investigate and resolve computer software and hardware problems of users. Answer clients' inquiries in person and via telephone concerning the use of computer hardware and software, including printing, word processing, programming languages, electronic mail, and operating systems.
[This occupation was added in 1994.]

25105 COMPUTER PROGRAMMERS

Convert project specifications and statements of problems and procedures to detailed logical flow charts for coding into computer language. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

25108 COMPUTER PROGRAMMER AIDES

Assist Computer Programmers or Systems Analysts by performing computer-related tasks such as entering completed programs for conversion to machine instructions, writing simple programs to retrieve data, and other duties to assist in the processing of data or controlling of industrial processes.

25111 PROGRAMMERS, NUMERICAL TOOL AND PROCESS CONTROL

Develop numerical control tape programs to control machining or processing of parts by automatic machine tools, equipment, or systems.

25199 ALL OTHER COMPUTER SCIENTISTS

All other computer scientists not classified separately above.
[This occupation was added in 1989.]

2. MATHEMATICAL SCIENTISTS AND RELATED WORKERS**25302 OPERATIONS AND SYSTEMS RESEARCHERS AND ANALYSTS, EXCEPT COMPUTER**

Conduct analyses of management and operational problems in terms of management information and concepts. Formulate mathematical or simulation models of the problem for solution by computer or other method. May develop and supply time and cost networks such as program evaluation and review techniques.

25310 MATHEMATICAL SCIENTISTS

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

25312 STATISTICIANS

Plan surveys and collect, organize, interpret, summarize, and analyze numerical data, applying statistical theory and methods to provide usable information in scientific, business, economic, and other fields. Data derived from surveys may represent either complete enumeration or statistical samples. Include Mathematical Statisticians who are engaged in the development of mathematical theory associated with the application of statistical techniques.

25313 ACTUARIES

Apply knowledge of mathematics, probability, statistics, and principles of finance and business to problems in life, health, social, and casualty insurance, annuities, and pensions.

25315 FINANCIAL ANALYSTS, STATISTICAL

Conduct statistical analyses of information affecting investment programs of public or private institutions and private individuals.

25319 ALL OTHER MATHEMATICAL SCIENTISTS

All other mathematical scientists not classified separately above.

25323 MATHEMATICAL TECHNICIANS

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

E. SOCIAL SCIENTISTS AND OTHER SOCIAL, RECREATIONAL, AND RELIGIOUS OCCUPATIONS**1. SOCIAL SCIENTISTS, INCLUDING URBAN AND REGIONAL PLANNERS****27100 SOCIAL SCIENTISTS, INCLUDING URBAN AND REGIONAL PLANNERS**

Engage in research concerned with: (1) human society and its characteristic elements, such as origin, race, or state; (2) economic and social relations and institutions involved in human's existence as a member of an organized community; or (3) the collection, interpretation, and application of scientific data relating to human behavior and mental processes. Include Economists, Psychologists, Market Research Analysts, and Urban and Regional Planners.

27102 ECONOMISTS, INCLUDING MARKET RESEARCH ANALYSTS

Economists: Conduct research, prepare reports, and formulate plans to aid in solution of economic problems arising from production and distribution of goods and services. **Market Research Analysts:** Research market conditions in local, regional, or national area to determine potential sales of a product or service; examine and analyze statistical data on past sales and wholesale or retail trade trends to forecast future sales trends.

27105 URBAN AND REGIONAL PLANNERS

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

27108 PSYCHOLOGISTS

Collect, interpret, and apply scientific data relating to human behavior and mental processes. Activities are in either applied fields of psychology or in basic science fields and research. Include occupations in personnel research and in administration of testing and counseling programs. Exclude Psychiatrists.

27199 ALL OTHER SOCIAL SCIENTISTS

All other social scientists not classified separately above.

2. OTHER SOCIAL SCIENCE RELATED WORKERS**27302 SOCIAL WORKERS, MEDICAL AND PSYCHIATRIC**

Counsel and aid individuals and families with problems that may arise during or following the recovery from physical or mental illness by providing supportive services designed to help the persons understand, accept, and follow medical recommendations. Include Chemical Dependency Counselors.

27305 SOCIAL WORKERS, EXCEPT MEDICAL AND PSYCHIATRIC

Counsel and aid individuals and families requiring social service assistance. Include Community Organization Social Workers who plan, organize, and work with community groups to solve problems. Exclude Chemical Dependency Social Workers.

27307 RESIDENTIAL COUNSELORS

Coordinate activities for residents of care and treatment institutions, boarding schools, college fraternities or sororities, children homes, or similar establishments. Work includes developing or assisting in the development of program plans for individuals, maintaining household records, and assigning rooms. Counsel residents in identifying and resolving social or other problems. Order supplies and determine need for maintenance, repairs, and furnishings.

[This occupation was added in 1990.]

27308 HUMAN SERVICES WORKERS

Assist Social Group Workers and Caseworkers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse and human relationships. Aide families and clients in obtaining information on the use of social and community services. May recommend additional services. Exclude Residential Counselors and Psychiatric Technicians.

[In 1989 this occupation replaced SOCIAL SERVICE TECHNICIANS. Also in 1989 this occupation ceased to include RESIDENTIAL COUNSELORS and PSYCHIATRIC TECHNICIANS.]

27311 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.

3. RELIGIOUS WORKERS**27500 RELIGIOUS WORKERS**

Provide spiritual and moral guidance and counseling to members of a religious faith or denomination or other persons expounding religious doctrine. Perform other activities associated with the practice of religion. Include clergy (e.g., Priests, Ministers, and Rabbis) and related workers such as Christian Science Practitioners and directors of religious education and activities.

27502 CLERGY

Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination as delegated by ordinance, license, or other authorization. Provide spiritual and moral guidance and assistance to members.

27505 DIRECTORS, RELIGIOUS ACTIVITIES AND EDUCATION

Direct and coordinate activities of a denominational group to meet religious needs of students. Plan, organize, and direct church school programs designed to promote religious education among church membership. Provide counseling and guidance relative to marital, health, financial, and religious problems.

27599 ALL OTHER RELIGIOUS WORKERS

All other religious workers not classified separately above.

F. LAW AND RELATED OCCUPATIONS**28000 LAW AND RELATED WORKERS**

Apply principles related to statute law and its administration. Work includes presiding over judicial proceedings, conducting litigation, drawing up legal documents, giving legal advice, and performing other legal functions. Include Administrative Hearing Examiners and Arbitrators whose decisions have standing in courts of law. Include workers who provide technical legal assistance to lawyers or judges. These workers often have substantial knowledge in a specialized aspect of law, such as patents, contracts, or title search.

1. LAWYERS AND RELATED WORKERS**28102 JUDGES AND MAGISTRATES**

Judges: Arbitrate, advise, and administer justice in a court of law. Sentence defendant in criminal cases according to statutes of State or Federal government. May determine liability of defendant in civil cases. Magistrates: Adjudicate criminal cases not involving penitentiary sentences and civil cases concerning damages below a sum specified by State law. May issue marriage licenses and perform wedding ceremonies.

28105 ADJUDICATORS, HEARINGS OFFICERS, AND JUDICIAL REVIEWERS

Conduct hearings to review and decide claims filed by the government against individuals or organizations, or individual eligibility issues concerning social programs, disability, or unemployment benefits. Determine the existence and the amount of liability, recommend the acceptance or rejection of claims, or compromise settlements according to laws, regulations, policies, and precedent decisions. Confer with persons or organizations involved and prepare written decisions.

28108 LAWYERS

Conduct criminal and civil lawsuits, draw up legal documents, advise clients as to legal rights, and practice other phases of law. May represent client in court or before quasi-judicial or administrative agencies of government. May specialize in a single area of law, such as patent law, corporate law, or criminal law.

2. LEGAL ASSISTANTS AND TECHNICIANS, EXCEPT CLERICAL

28300 LEGAL ASSISTANTS AND TECHNICIANS, EXCEPT CLERICAL

Provide technical legal assistance to lawyers or judges. These workers often have substantial knowledge in a specialized aspect of law, such as patents, contracts, or title search.

28302 LAW CLERKS

Research legal data for brief or argument based on statutory law or decisions. Search for and study legal records and documents to obtain data applicable to case under consideration. Prepare rough drafts of briefs or arguments. File pleadings for firm with court clerk. Serve copies of pleading on opposing counsel. Prepare affidavits of documents and keep document file and correspondence of cases.

28305 PARALEGAL PERSONNEL

Assist lawyers by researching law, investigating facts, and preparing legal documents. May gather research data for use as evidence to formulate defense or to initiate legal action. These workers are career professionals, usually having either a four-year college degree or a degree from an institute specializing in the paralegal profession.

28308 TITLE SEARCHERS

Compile list of mortgages, deeds, contracts, judgments, and other instruments (chain) pertaining to title by searching public and private records of real estate or title insurance company.

28311 TITLE EXAMINERS AND ABSTRACTORS

Title Examiners: Search public records and examine titles to determine legal condition of property title. Copy or summarize (abstracts) recorded documents which affect condition of title to property (e.g., mortgages, trust deeds, and contracts). May prepare and issue policy that guarantees legality of title. Abstractors: Summarize pertinent legal or insurance details or sections of statutes or case law from reference books for purpose of examination, proof, or ready reference. Search out titles to determine if title deed is correct.

28399 ALL OTHER LEGAL ASSISTANTS AND TECHNICIANS, EXCEPT CLERICAL

All other legal assistants and technicians not classified separately above.

G. TEACHERS, EDUCATORS, LIBRARIANS, AND RELATED OCCUPATIONS

31000 TEACHERS, EDUCATORS, LIBRARIANS, AND RELATED WORKERS

Provide education or training in public or private schools and in businesses where training is provided in a classroom-like environment. Include education-related workers (professional, paraprofessional, and technical) such as Librarians, Archivists, Curators, Museum Technicians, and Educational and Vocational Counselors.

1. TEACHERS- COLLEGE, JUNIOR COLLEGE, UNIVERSITY, PROFESSIONAL SCHOOL, OR TECHNICAL INSTITUTE

31100 TEACHERS, COLLEGE, JUNIOR COLLEGE, UNIVERSITY, PROFESSIONAL SCHOOL, OR TECHNICAL INSTITUTE

Conduct classes beyond the secondary school level. Work includes preparing and delivering lectures to students; conducting seminars or laboratory sessions; preparing and administering examinations; conducting research in a particular field of knowledge; and publishing findings in books or professional journals. Teachers at this level usually specialize in one field of study and require knowledge normally obtained through completion of a 4-year college program and additional graduate work. May be designated as professors, associate or assistant professors, or instructors.

31111 LECTURERS

Responsible solely for preparing and delivering discourses on subjects requiring specialized knowledge. Exclude persons trained as lecturers but currently employed in positions not requiring the use of such training.

31114 NURSING INSTRUCTORS, POSTSECONDARY

Demonstrate and teach patient care in classroom and clinical units to nursing students. Instruct students in principles and application of physical, biological, and psychological subjects related to nursing. Conduct and supervise laboratory experiments. Issue assignments, direct seminars, etc. Participate in planning curriculum with medical and nursing personnel and in evaluating and improving teaching and nursing practices. May specialize in specific subjects, such as anatomy or chemistry, or in a type of nursing activity, such as nursing of surgical patients.

31117 GRADUATE ASSISTANTS, TEACHING

Assist department chairperson, faculty members, or other professional staff members in college or university by performing teaching or teaching-related duties, such as teaching lower level courses, developing teaching materials, preparing and giving examinations, and grading examinations or papers. Graduate Assistants who primarily perform non-teaching duties, such as laboratory research, should be reported in the occupational category related to the work performed.

31201 AGRICULTURAL SCIENCES TEACHERS, POSTSECONDARY

Teach courses pertaining to agricultural sciences. Include teachers of agronomy, dairy sciences, fisheries management, forestry, horticultural sciences, poultry sciences, range management, and soil conservation.

[This occupation was added in 1996.]

31202 LIFE SCIENCES TEACHERS, POSTSECONDARY

Teach courses in biological sciences. Include teachers of biochemistry, biophysics, botany, and zoology. Exclude teachers of Agricultural Sciences. Exclude Health Diagnostics and Health Treatment Teachers.

[This occupation was modified in 1996.]

- 31204 CHEMISTRY TEACHERS, POSTSECONDARY
Teach courses in chemistry. Include teachers of analytical, inorganic, and organic chemistry.
[This occupation was modified in 1996.]
- 31206 PHYSICS TEACHERS, POSTSECONDARY
Teach courses in physics.
[This occupation was modified in 1996.]
- 31209 ALL OTHER PHYSICAL SCIENCES TEACHERS, POSTSECONDARY
Teach courses in the physical sciences, except chemistry and physics. Include teachers of subjects such as astronomy, atmospheric sciences, space sciences, and geology.
[This occupation was modified in 1996.]
- 31211 HEALTH DIAGNOSTICS TEACHERS, POSTSECONDARY
Teach courses required for medical degrees that are necessary to practice as chiropractors, dentists, optometrists, physicians, podiatrists, veterinarians, or similar practitioners.
[This occupation was added in 1996.]
- 31212 HEALTH ASSESSMENT AND TREATMENT TEACHERS, POSTSECONDARY
Teach courses required for degrees needed by health specialists, technicians, and technologists working as nutritionists, occupational therapists, pharmacists, physical therapists, physician assistants, respiratory therapists, or in similar occupations. Exclude Nursing Instructors.
[This occupation was modified in 1996.]
- 31213 COMMUNICATIONS TEACHERS, POSTSECONDARY
Teach courses in communications, such as: organizational communications, public relations, and radio/television broadcasting. Include teachers of journalism.
[This occupation was added in 1996.]
- 31214 ENGLISH LANGUAGE AND LITERATURE TEACHERS, POSTSECONDARY
Teach courses in English language and literature. Include teachers of linguistics, and of comparative literature taught in English.
[This occupation was added in 1996, as a disaggregation from 31216, ENGLISH AND FOREIGN LANGUAGES TEACHERS, POSTSECONDARY.]
- 31215 FOREIGN LANGUAGE AND LITERATURE TEACHERS, POSTSECONDARY
Teach courses in foreign (i.e., other than English) languages and literature.
[This occupation was added in 1996, as a disaggregation from 31216, ENGLISH AND FOREIGN LANGUAGES TEACHERS, POSTSECONDARY.]

- 31218 ART, DRAMA, AND MUSIC TEACHERS, POSTSECONDARY
Teach courses in visual and performing arts, such as: cinema, dance, drama, music, painting, sculpture, and theater.
[This occupation was modified in 1996.]
- 31222 ENGINEERING TEACHERS, POSTSECONDARY
Teach courses in engineering. Include teachers of engineering specialties such as: aerospace, chemical, civil, electrical, industrial, mechanical, mineral, nuclear, and petroleum engineering.
[This occupation was modified in 1996.]
- 31223 ARCHITECTURE TEACHERS, POSTSECONDARY
Teach courses in architecture and architectural design, such as: architectural environmental design, interior architecture/design, and landscape architecture.
[This occupation was added in 1996.]
- 31224 MATHEMATICAL SCIENCES TEACHERS, POSTSECONDARY
Teach courses in mathematics, applied mathematics, statistics, and actuarial science.
[This occupation was modified in 1996.]
- 31226 COMPUTER SCIENCE TEACHERS, POSTSECONDARY
Teach courses in computer and information science, including computer engineering, computer programming, and information systems theory.
[This occupation was modified in 1996.]
- 31230 SOCIAL SCIENCES TEACHERS, POSTSECONDARY
Teach courses pertaining to human society. Include teachers of: anthropology and sociology; area, ethnic, and cultural studies; economics; geography; history; political science; and psychology.
[Before 1996 this occupation was coded as 31210 SOCIAL SCIENCES TEACHERS, POSTSECONDARY.]
- 31231 ANTHROPOLOGY AND SOCIOLOGY TEACHERS, POSTSECONDARY
Teach courses in anthropology and sociology.
[This occupation was added in 1996.]
- 31232 AREA, ETHNIC, AND CULTURAL STUDIES TEACHERS, POSTSECONDARY
Teach courses pertaining to the culture and development of an area (e.g., Latin America), an ethnic group, or any other group (e.g., women's studies, urban affairs).
[This occupation was added in 1996.]
- 31233 ECONOMICS TEACHERS, POSTSECONDARY
Teach courses in economics.
[This occupation was added in 1996.]

- 31234 GEOGRAPHY TEACHERS, POSTSECONDARY
Teach courses in geography.
[This occupation was added in 1996.]
- 31235 HISTORY TEACHERS, POSTSECONDARY
Teach courses in human history and historiography.
[This occupation was added in 1996.]
- 31236 POLITICAL SCIENCE TEACHERS, POSTSECONDARY
Teach courses in political science, international affairs, and international relations.
[This occupation was added in 1996.]
- 31237 PSYCHOLOGY TEACHERS, POSTSECONDARY
Teach courses in psychology, such as: child, clinical, and developmental psychology, and psychological counseling.
[This occupation was added in 1996.]
- 31239 ALL OTHER SOCIAL SCIENCES TEACHERS, POSTSECONDARY
Teach courses in social sciences not classified separately above.
[This occupation was added in 1996.]
- 31242 BUSINESS TEACHERS, POSTSECONDARY
Teach courses in business administration and management, such as: accounting, finance, human resources, labor relations, marketing, and operations research.
[This occupation was added in 1996.]
- 31244 LAW TEACHERS, POSTSECONDARY
Teach courses in law.
[This occupation was added in 1996.]
- 31246 CRIMINAL JUSTICE AND LAW ENFORCEMENT TEACHERS,
POSTSECONDARY
Teach courses in criminal justice, corrections, and law enforcement administration.
[This occupation was added in 1996.]
- 31247 SOCIAL WORK TEACHERS, POSTSECONDARY
Teach courses in social work.
[This occupation was added in 1996.]
- 31252 EDUCATION TEACHERS, POSTSECONDARY
Teach courses pertaining to education, such as: counseling, curriculum, guidance, instruction, teacher education, and teaching English as a second language.
[This occupation was added in 1996.]
- 31254 PHILOSOPHY AND RELIGION TEACHERS, POSTSECONDARY
Teach courses in philosophy, religion, and theology.
[This occupation was added in 1996.]

31256 LIBRARY SCIENCE TEACHERS, POSTSECONDARY

Teach courses in library science.

[This occupation was added in 1996.]

31258 PARKS, RECREATION, LEISURE, AND FITNESS STUDIES TEACHERS, POSTSECONDARY

Teach courses pertaining to recreation, leisure, and fitness studies, including: exercise physiology, facilities management, natural resources conservation, and wildlife/wetlands management.

[This occupation was added in 1996.]

31262 HOME ECONOMICS TEACHERS, POSTSECONDARY

Teach courses in child care, family relations, finance, nutrition, and related subjects as pertaining to home management.

[This occupation was added in 1996.]

31299 ALL OTHER POSTSECONDARY TEACHERS

All other postsecondary teachers not elsewhere classified.

2. OTHER TEACHERS AND INSTRUCTORS**31303 TEACHERS, PRESCHOOL**

Instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification.

[This occupation was added in 1994 as a disaggregation of occupation 31302 TEACHERS, PRESCHOOL AND KINDERGARTEN.]

31304 TEACHERS, KINDERGARTEN

Teach elemental natural and social science, personal hygiene, music, art, and literature to children from 4 to 6 years old. Promote physical, mental, and social development. May be required to hold State certification.

[This occupation was added in 1994 as a disaggregation of occupation 31302 TEACHERS, PRESCHOOL AND KINDERGARTEN.]

31305 TEACHERS, ELEMENTARY SCHOOL

Teach elementary pupils in public or private schools basic academic, social, and other formative skills. Exclude special education teachers of the handicapped.

31308 TEACHERS, SECONDARY SCHOOL

Instruct students in public or private schools in one or more subjects, such as English, mathematics, or social studies. May be designated according to subject matter specialty, such as Typing Instructors, Commercial Teachers, or English Teachers. Include vocational high school teachers.

31311 TEACHERS, SPECIAL EDUCATION

Teach elementary and secondary school subjects to educationally and physically handicapped students. Include teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills to the mentally retarded.

31314 TEACHERS AND INSTRUCTORS, VOCATIONAL EDUCATION AND TRAINING

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

31317 INSTRUCTORS, NONVOCATIONAL EDUCATION

Teach or instruct out-of-school youths and adults in courses other than those that normally lead to an occupational objective and are less than the baccalaureate level. Subjects may include self-improvement and nonvocational courses such as Americanization, basic education, art, drama, music, bridge, homemaking, stock market analysis, languages, modeling, flying, dancing, and automobile driving. Teaching may take place in public or private schools or in an organization whose primary business is other than education.

31321 INSTRUCTORS AND COACHES, SPORTS AND PHYSICAL TRAINING

Instruct or coach groups or individuals in the fundamentals of sports. Demonstrate techniques and methods of participation. Observe and inform participants of corrective measures necessary to improve their skills. Those required to hold teaching degrees should be reported in the appropriate teaching category.

31323 FARM AND HOME MANAGEMENT ADVISORS

Advise, instruct, and assist individuals and families engaged in agriculture, agricultural related processes, or home economics activities. Demonstrate procedures and apply research findings to solve problems; instruct and train in product development, sales, and the utilization of machinery and equipment to promote general welfare. Include County Agricultural Agents, Feed and Farm Management Advisers, Home Economists, and Extension Service Advisers.

31399 ALL OTHER TEACHERS AND INSTRUCTORS

All other teachers and instructors not classified separately above.

3. LIBRARIANS, ARCHIVISTS, CURATORS, AND OTHER EDUCATION RELATED WORKERS

31502 LIBRARIANS, PROFESSIONAL

Administer libraries and perform related library services. Includes selecting, acquiring, cataloging, classifying, circulating, and maintaining library materials; furnishing reference, bibliographical, and reader's advisory services. May select music, films, or other audio-visual material for programs.

31505 TECHNICAL ASSISTANTS, LIBRARY

Assist librarians by furnishing information on library sciences, facilities, and rules; by assisting readers in the use of card catalogs and indexes to locate books and other materials; and by answering questions that require only brief consultation of standard reference. May catalog books or train and supervise clerical staff.

31508 AUDIO-VISUAL SPECIALISTS

Plan and prepare audio-visual teaching aids and methods for use in education.

31511 CURATORS, ARCHIVISTS, MUSEUM TECHNICIANS, AND CONSERVATORS

Curators: Administer affairs of museum and conduct scientific research programs. Direct instructional, research, and public service activities of institution. Archivists: Appraise, edit, and direct safekeeping of permanent records and historically valuable documents. Participate in research activities based on archival materials. Museum Technicians and Conservators: Prepare specimens such as fossils, skeletal parts, lace, and textiles for museum collection and exhibits. May restore documents or install, arrange, and exhibit materials.

[In 1996, CONSERVATORS replaced RESTORERS in the title and definition.]

31514 VOCATIONAL AND EDUCATIONAL COUNSELORS

Counsel individuals and provide group educational and vocational guidance services.

31517 INSTRUCTIONAL COORDINATORS

Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors for developing curricula and conducting courses. Include Educational Consultants and Specialists, Public Health Educators, and Instructional Material Directors.

31521 TEACHER AIDES, PARAPROFESSIONAL

Perform duties that are instructional in nature or deliver direct services to students and/or parents. Serve in a position for which a teacher or another professional has ultimate responsibility for the design and implementation of educational programs and services.

H. HEALTH PRACTITIONERS, TECHNOLOGISTS, TECHNICIANS, AND RELATED HEALTH OCCUPATIONS

32000 HEALTH PRACTITIONERS, TECHNOLOGISTS, TECHNICIANS, AND RELATED HEALTH WORKERS

Engage in prevention and diagnosis of human and animal ailments, health maintenance, and care of the ill through the provision and supervision of nursing care, therapy, compounding drugs, and nutritional programs. Engage in medical laboratory testing or medical records technology.

1. HEALTH DIAGNOSING AND TREATING PRACTITIONERS

32100 HEALTH DIAGNOSING AND TREATING PRACTITIONERS

Prevent and diagnose human and animal ailments. Prescribe and administer medical and surgical treatment for diseases and illnesses. Include Physicians and Surgeons, Dentists, Optometrists, Podiatrists, and Veterinarians and Veterinary Inspectors.

32102 PHYSICIANS AND SURGEONS

Doctors of medicine who diagnose and treat mental or physical disorders. May specialize in one field such as surgery, obstetrics, or psychiatry.

32105 DENTISTS

Diagnose and treat diseases, injuries, and malformations of teeth, gums, and related oral structures.

32108 OPTOMETRISTS

Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes to determine visual efficiency and performance by use of instruments and observation. Prescribe corrective procedures.

32111 PODIATRISTS

Diagnose and treat diseases and deformities of the human foot.

32113 CHIROPRACTORS

Adjust spinal column and other articulations of the body to prevent disease and correct abnormalities of the human body believed to be caused by interference with the nervous system. Examine patient to determine nature and extent of disorder. Manipulate spine or other involved area. May utilize supplementary measures such as exercise, rest, water, light, heat, and nutritional therapy.

[This occupation was added in 1989.]

32114 VETERINARIANS AND VETERINARY INSPECTORS

Diagnose and treat diseases and dysfunctions of animals. May engage in a particular function such as research and development, consultation, administration, technical writing, sale or production of commercial products, or rendering of technical services to commercial firms or other organizations. Include Veterinary Inspectors.

32199 ALL OTHER HEALTH DIAGNOSING AND TREATING PRACTITIONERS
All other health diagnosing and treating practitioners not classified separately above.

2. THERAPISTS

32300 THERAPISTS

Administer health treatments to patients with disabilities, disorders, and injuries to relieve pain, develop or restore functions, prevent muscular deconditioning, and maintain maximum performance. Treatments include the use of exercise, massage, heat, water, light, music, art, or electricity as prescribed by a Physician.

32302 RESPIRATORY THERAPISTS

Provide assessment, diagnostic evaluation, treatment, 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.

[This definition was modified in 1996.]

32305 OCCUPATIONAL THERAPISTS

Plan, organize, and participate in medically-oriented occupational programs in hospital or similar institution to rehabilitate patients who are physically or mentally ill.

32308 PHYSICAL THERAPISTS

Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury.

32311 CORRECTIVE AND MANUAL ARTS THERAPISTS

Corrective Therapists: Apply techniques and treatments designed to prevent muscular deconditioning resulting from long convalescence or inactivity due to chronic illness.
Manual Arts Therapists: Instruct patients in prescribed manual arts activities to prevent anatomical and physiological deconditioning and to assist in maintaining, improving, or developing work skills.

32314 SPEECH-LANGUAGE PATHOLOGISTS AND AUDIOLOGISTS

Examine and provide remedial services for persons with speech and hearing disorders. Perform research related to speech and language problems.

32317 RECREATIONAL THERAPISTS

Plan, organize, and direct medically-approved recreation programs for patients in hospitals, nursing homes, or other institutions. Activities include sports, trips, dramatics, social activities, and arts and crafts.

32399 ALL OTHER THERAPISTS

All other therapists not classified separately above.

3. HEALTH CARE MAINTENANCE AND TREATING WORKERS

32502 REGISTERED NURSES

Administer nursing care to ill or injured persons. Licensing or registration required. Include administrative, public health, industrial, private duty, and surgical nurses.

32505 LICENSED PRACTICAL NURSES

Care for ill, injured, convalescent, and handicapped persons in hospitals, clinics, private homes, sanitariums, and similar institutions.

32508 EMERGENCY MEDICAL TECHNICIANS

Administer first aid treatment and transport sick or injured persons to medical facility, working as a member of an emergency medical team.

32511 PHYSICIAN ASSISTANTS

Provide patient services under direct supervision and responsibility of doctor of medicine or osteopathy. Elicit detailed patient histories and make complete physical examinations. Reach tentative diagnosis and order appropriate laboratory tests. Require substantial educational preparation, usually at junior or 4-year colleges. Most physician assistants complete 2 years of formal training, but training may vary from 1 to 5 years depending on the nature of the training and previous education and experience. May require certification. Exclude Ambulance Attendants, whose training is limited to the application of first aid, and Nurses.

32514 OPTICIANS, DISPENSING AND MEASURING

Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. 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. Include Contact Lens Opticians.

32517 PHARMACISTS

Compound and dispense medications following prescriptions issued by physicians, dentists, or other authorized medical practitioners.

32518 PHARMACY TECHNICIANS

Fill orders for unit doses and prepackaged pharmaceuticals and perform other related duties under the supervision and direction of a pharmacy supervisor or staff pharmacist. Duties include keeping records of drugs delivered to the pharmacy, storing incoming merchandise in proper locations, and informing the supervisor of stock needs and shortages. May clean equipment used in the performance of duties and assist in the care and maintenance of equipment and supplies.

[This occupation was added in 1991.]

32521 DIETITIANS AND NUTRITIONISTS

Organize, plan, and conduct food service or nutritional programs to assist in promotion of health and control of disease. May administer activities of department providing quantity food service. May plan, organize, and conduct programs in nutritional research.

32523 DIETETIC TECHNICIANS

Under direct supervision of Dietitians, or following established nutritional guidelines, advise on food or nutrition.

4. OTHER HEALTH PROFESSIONALS, PARAPROFESSIONALS, AND TECHNICIANS**32902 MEDICAL AND CLINICAL LABORATORY TECHNOLOGISTS**

Perform a wide range of complex procedures in the general area of the clinical laboratory or perform specialized procedures in such areas as cytology, histology, and microbiology. Duties may include supervising and coordinating activities of workers engaged in laboratory testing. Include workers who teach medical technology when teaching is not their primary activity.

32905 MEDICAL AND CLINICAL LABORATORY TECHNICIANS

Perform routine tests in medical laboratory for use in treatment and diagnosis of disease. Prepare vaccines, biologicals, and serums for prevention of disease. Prepare tissue samples for Pathologists, take blood samples, and execute such laboratory tests as urinalysis and blood counts. May work under the general supervision of a Medical Laboratory Technologist.

32908 DENTAL HYGIENISTS

Perform dental prophylactic treatments and instruct groups and individuals in the care of the teeth and mouth.

32911 MEDICAL RECORDS TECHNICIANS

Compile and maintain medical records of hospital and clinic patients.

32913 RADIATION THERAPISTS

Provide radiation therapy to patients as prescribed by a radiologist according to established practices and standards. Duties may include reviewing prescription and diagnosis; acting as liaison with physician and supportive care personnel; preparing equipment, such as immobilization, treatment, and protection devices; and maintaining records, reports, and files. May assist in dosimetry procedures and tumor localization.
[This occupation was added in 1995.]

32914 NUCLEAR MEDICINE TECHNOLOGISTS

Prepare, administer, and measure radioactive isotopes in therapeutic, diagnostic, and tracer studies utilizing 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.

32919 RADIOLOGIC TECHNOLOGISTS

Take X-rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Include technologists who specialize in other modalities such as computed tomography, ultrasound, and magnetic resonance. Include workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen.

[In 1995, this occupation replaced 32917 RADIOLOGIC TECHNOLOGISTS and 32921 RADIOLOGIC TECHNICIANS.]

32923 ELECTRONEURODIAGNOSTIC TECHNOLOGISTS

Record electrical activity of the brain and other nervous system functions using a variety of techniques and equipment. May prepare patients for tests, obtain medical histories, calculate results, and maintain equipment.

32925 CARDIOLOGY TECHNOLOGISTS

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

[This occupation was added in 1989.]

32926 ELECTROCARDIOGRAPH TECHNICIANS

Record electromotive variations in heart muscle using electrocardiograph, to provide data for diagnosis of heart ailments.

32928 SURGICAL TECHNOLOGISTS AND TECHNICIANS

Perform any combination of the following tasks either before, during, or after an operation: Prepare patient by washing, shaving, etc.; place equipment and supplies in operating room according to surgeon's instruction; arrange instruments under direction of nurse; maintain specified supply of fluids for use during operation; adjust lights and equipment as directed; hand instruments and supplies to surgeon, hold retractors, and cut sutures as directed; count sponges, needles, and instruments used during operation; and clean operating room.

32931 PSYCHIATRIC TECHNICIANS

Provide nursing care to mentally ill, emotionally disturbed, or mentally retarded patients. Participate in rehabilitation and treatment programs. Help with personal hygiene. Administer oral medications and hypodermic injections, following physician's prescriptions and hospital procedures. Monitor patient's physical and emotional well-being and report to medical staff.

[This occupation was added in 1989.]

32951 VETERINARY TECHNICIANS AND TECHNOLOGISTS

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.

32999 ALL OTHER HEALTH PROFESSIONALS, PARAPROFESSIONALS, AND TECHNICIANS

All other health professionals, paraprofessionals, and technicians not classified separately above.

I. WRITERS, ARTISTS, ENTERTAINERS, ATHLETES, AND RELATED OCCUPATIONS**34002 WRITERS AND EDITORS**

Writers: Originate and prepare written material such as scripts, stories, news items, advertisements, and other material. Editors: Coordinate, edit, and analyze prepared written material. Include Managing Editors. Exclude Publicity Writers, Public Relations Specialists, Technical Writers, and Technical Editors.

34005 TECHNICAL WRITERS AND EDITORS

Write or edit technical materials, such as equipment manuals, appendices, and operating and maintenance instructions. May oversee preparation of illustrations, photographs, diagrams, and charts; and assist in layout work.

[EDITORS was added to the title in 1996.]

34008 PUBLIC RELATIONS SPECIALISTS AND PUBLICITY WRITERS

Engage in promoting or creating good will for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media. Prepare and arrange displays, make speeches, and perform related publicity efforts.

34011 REPORTERS AND CORRESPONDENTS

Collect and analyze facts about newsworthy events by interview, investigation, or observation. Report and write stories for newspaper, news magazine, radio, or television. Exclude correspondents who broadcast news for radio and television.

34014 BROADCAST NEWS ANALYSTS

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

34017 ANNOUNCERS, RADIO AND TELEVISION

Introduce various types of radio or television programs, interview or question guests, or act as master of ceremonies. Read news flashes and identify station by giving call letters.

34021 ANNOUNCERS, EXCEPT RADIO AND TELEVISION

Announce information to patrons of sporting and other entertainment events using public address system.

34023 PHOTOGRAPHERS

Photograph persons, subjects, merchandise, or other commercial products. May develop negatives and produce finished prints. Include Scientific Photographers, Aerial Photographers, and Photojournalists.

34026 CAMERA OPERATORS, TELEVISION AND MOTION PICTURE

Operate television or motion picture camera to photograph scenes for TV broadcasts, advertising, or motion pictures.

34028 BROADCAST TECHNICIANS

Set up, operate, and maintain the electronic equipment used to transmit radio and television programs. Control audio equipment to regulate volume level and quality of sound during radio and television broadcasts. Operate radio transmitter to broadcast radio and television programs. An FCC first class operator's license is usually required for this occupation. A few typical broadcast technician workers include: AUDIO OPERATORS VIDEO OPERATORS CONTROL ROOM TECHNICIANS TRANSMITTER OPERATORS MASTER-CONTROL ENGINEERS TELECINE OPERATORS

34032 FILM EDITORS

Edit motion picture film, video tape, and sound tracks.

34035 ARTISTS AND RELATED WORKERS

Design and execute artwork to illustrate subject matter; promote public consumption of materials, products, or services; or to influence others in their opinions of individuals or organizations. Include Graphic Designers, Commercial Artists, Artistic Painters, Art Directors, and Painting Restorers.

34038 DESIGNERS, EXCEPT INTERIOR DESIGNERS

Design or arrange objects and materials to achieve artistic or decorative effects for apparel or other commercial items. May also create, mark out, or draw designs for items such as furniture and machinery (product design). Designers are generally categorized according to articles or products designed, such as Clothes Designers, Industrial Designers, or according to type of design work, such as Embroidery Designers. Include Layout Artists.

34041 INTERIOR DESIGNERS

Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style. May specialize in a particular field, style, or phase of interior design. Exclude Merchandise Display Designers.

34044 MERCHANDISE DISPLAYERS AND WINDOW TRIMMERS

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

34047 MUSIC DIRECTORS, SINGERS, COMPOSERS, AND RELATED WORKERS

Conduct, direct, plan, and lead instrumental or vocal performances by musical groups, such as orchestras, choirs, and glee clubs. Include workers who entertain by singing songs on stage, radio, television, or in motion pictures. Include Arrangers, Composers, and Orchestrators.

34051 MUSICIANS, INSTRUMENTAL

Play one or more musical instruments in recital, in accompaniment, or as members of an orchestra, band, or other musical group.

34053 DANCERS AND CHOREOGRAPHERS

Dancers: Perform dances solo, with partners, or in groups to entertain audience. May also sing or act. Choreographers: Create and teach original dance for ballet, musical, or review. May direct and stage presentations.

34056 PRODUCERS, DIRECTORS, ACTORS, AND OTHER ENTERTAINERS

Produce, direct, or play parts in stage, television, radio, or motion picture productions for entertainment, information, or instruction.

34058 ATHLETES, COACHES, UMPIRES, AND RELATED WORKERS

Participate in competitive professional athletic events as a player, coach, manager, umpire, or judge. Include Athletic Trainers, Scouts, Official Scorers, and Timekeepers.

J. OTHER PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL OCCUPATIONS

39002 AIRPLANE DISPATCHERS AND 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 insure flight safety.

39005 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.

39008 RADIO OPERATORS

Receive and transmit communications using radiotelegraph or radiotelephone equipment in accordance with government regulations. May repair equipment.

39011 FUNERAL DIRECTORS AND MORTICIANS

Perform various tasks to arrange and direct funeral services, such as coordinating transportation of body to mortuary for embalming, interviewing family or other authorized person to arrange details, selecting pallbearers, procuring official for religious rites, and providing transportation for mourners. Exclude top and middle managers whose duties are primarily policy making, planning, and administrative in nature and report them as General Managers or in another appropriate managerial occupation.

39014 EMBALMERS

Prepare bodies for interment in conformity with legal requirements.

39999 ALL OTHER PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL WORKERS

All other professional, paraprofessional, and technical workers not classified separately above.

III. SALES AND RELATED OCCUPATIONS

40000 SALES AND RELATED OCCUPATIONS

Include in this division persons selling goods or services and others directly related to sales..... Occupations in this section are organized as follows: Supervisory; sales of services; sales of commodities; and a residual "All Other" category..... Special instructions: Managers of smaller establishments who typically have first-line supervisory duties and engage in the same activities as the workers they supervise should be reported in the First-line Supervisors and Managers/Supervisors occupation.

A. FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS

41002 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - SALES AND RELATED WORKERS

Directly supervise and coordinate activities of marketing, sales, and related workers. May perform management functions, such as budgeting, accounting, marketing, and personnel work, in addition to their supervisory duties.

B. SALES OCCUPATIONS, SERVICES

43000 SALES WORKERS, SERVICES

Sell services such as insurance, real estate, travel, securities, and financial; or business services, such as advertising, building maintenance, credit reporting, and printing.

43002 SALES AGENTS AND PLACERS, INSURANCE

Sell life, endowments, fire, accident, and other types of insurance. May refer clients to independent brokers, work as independent broker, or be employed by an insurance company.

43005 BROKERS, REAL ESTATE

Sell real estate, rent and manage properties, and arrange for loans while managing and operating real estate office.

43008 SALES AGENTS, REAL ESTATE

Rent, buy, and sell property to clients. Perform duties such as studying property listings, interviewing prospective clients, accompanying clients to property site, discussing conditions of sale, and drawing up real estate contracts.

43011 APPRAISERS, REAL ESTATE

Appraise real property to determine its value for purchase, sales, investment, mortgage, or loan purposes.

43014 SALES AGENTS, SECURITIES, COMMODITIES, AND FINANCIAL SERVICES

Buy and sell securities in investment and trading firms, or call upon businesses and individuals to sell financial services. Provide financial services, such as loan, tax, and securities counseling. May advise securities customers about such things as stocks, bonds, and market conditions.

43017 SALES AGENTS, SELECTED BUSINESS SERVICES

Sell selected services, such as building maintenance, credit reporting, bookkeeping, security, printing, and storage space, to businesses. Exclude advertising, insurance, financial, and real estate sales agents.

43021 TRAVEL AGENTS

Plan trips for travel agency customers. Duties include determining destination, modes of transportation, travel dates, costs, accommodations required, and planning, describing, or selling itinerary package tours. May specialize in foreign or domestic service, individual or group travel, specific geographical area, airplane charters, or package tours.

43023 SALES AGENTS, ADVERTISING

Sell or solicit advertising. Sell things such as graphic art, advertising space in publications, custom made signs, or TV and radio advertising time. May obtain leases for outdoor advertising sites or persuade retailer to use sales promotion display items.

43099 ALL OTHER SALES REPRESENTATIVES AND SALESPERSONS, SERVICES

All other services sales representatives and salespersons not classified separately above.

C. MERCHANDISE, PRODUCTS, AND OTHER SALES AND SALES-RELATED OCCUPATIONS**49002 SALES ENGINEERS**

Sell business goods or services that require a technical background equivalent to a baccalaureate degree in engineering. Exclude Engineers whose primary function is not marketing or sales.

49005 SALES REPRESENTATIVES, SCIENTIFIC AND RELATED PRODUCTS AND SERVICES, EXCEPT RETAIL

Sell goods or services requiring scientific or similar knowledge in such areas as biology, engineering, chemistry, and electronics, normally obtained from 2 or 3 years of post secondary education or its equivalent. Sell products such as aircraft, agricultural equipment and supplies, industrial machinery, medical supplies, electronic equipment, chemicals, and precision instruments. Exclude Sales Engineers whose background or equivalent knowledge is equal to a baccalaureate degree in engineering.

- 49008 **SALES REPRESENTATIVES, EXCEPT RETAIL AND SCIENTIFIC AND RELATED PRODUCTS AND SERVICES**
Sell goods or services for wholesalers or manufacturers to businesses or groups of individuals. Solicit orders from established clients or secure new customers. Work requires substantial knowledge of items sold.
- 49011 **SALESPERSONS, RETAIL**
Sell to the public any of a wide variety of merchandise, such as furniture, motor vehicles, appliances, or apparel. Include workers who sell less expensive merchandise where a knowledge of the item sold is not a primary requirement. Exclude Cashiers.
- 49014 **SALESPERSONS, PARTS**
Sell spare and replaceable parts and equipment from behind counter in agency, repair shop, or parts store. Determine make, year, and type of part needed by observing damaged part or listening to a description of malfunction. Read catalogue to find stock number, price, etc., and fill customer's order from stock. Exclude workers whose primary responsibilities are to receive, store, and issue materials, equipment, and other items from stockroom.
- 49017 **COUNTER AND RENTAL CLERKS**
Receive orders for services, such as rentals, repairs, dry-cleaning, and storage. May compute cost and accept payment.
- 49021 **STOCK CLERKS, SALES FLOOR**
Receive, store, and issue sales floor merchandise. Stock shelves, racks, cases, bins, and tables with merchandise and arrange merchandise displays to attract customers. May periodically take physical count of stock or check and mark merchandise.
- 49023 **CASHIERS**
Receive and disburse money in establishments other than financial institutions. Usually involves use of adding machines, cash registers, or change makers. May also include processing credit card transactions.
- 49026 **TELEMARKETERS, DOOR-TO-DOOR SALES WORKERS, NEWS AND STREET VENDORS, AND OTHER RELATED WORKERS**
Solicit orders for goods or services over the telephone; sell goods or services door-to-door or on the street.
- 49034 **DEMONSTRATORS AND PROMOTERS**
Demonstrate merchandise and answers questions for the purpose of creating public interest in buying the product. May sell demonstrated merchandise.
[In 1996, this occupation was disaggregated from occupation 49032 DEMONSTRATORS, PROMOTERS, AND MODELS.]

49036 MODELS

Model garments and other apparel to display clothing before prospective buyers at fashion shows, private showings, and retail establishments. May pose for photos to be used for advertising purposes. May pose as subject for paintings, sculptures, and other types of artistic expression by artists.

*[In 1996, this occupation was disaggregated from occupation 49032
DEMONSTRATORS, PROMOTERS, AND MODELS.]*

49999 ALL OTHER SALES AND RELATED WORKERS

All other sales and related workers not classified separately above.

IV. CLERICAL AND ADMINISTRATIVE SUPPORT OCCUPATIONS

50000 CLERICAL AND ADMINISTRATIVE SUPPORT OCCUPATIONS

Include in this division persons performing office and plant clerical tasks, such as typing, filing, computer operating, records keeping (personnel, stock, production, billing, etc.), and mail preparation and distributing..... Occupations in this section are organized as follows: Supervisory; unique and industry-specific clerical; secretarial and general office; office machine operating; communications and mail distributing; material recording and other production related; and a residual "All Other" category..... Special instructions: Report Administrative Assistants in occupations according to the nature of work they provide (i.e., clerical support vs. management support).

A. FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS

51002 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - CLERICAL AND ADMINISTRATIVE SUPPORT WORKERS

Directly supervise and coordinate activities of clerical and administrative support workers. Managers/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work, and may also engage in the same clerical work as the workers they supervise.

B. INDUSTRY SPECIFIC CLERICAL AND ADMINISTRATIVE SUPPORT OCCUPATIONS

1. BANKING, SECURITY, FINANCE, AND CREDIT WORKERS

53102 TELLERS

Receive and pay out money. Keep records of money and negotiable instruments involved in a financial institutions' various transactions.

53105 NEW ACCOUNTS CLERKS

Interview persons desiring to open bank accounts. Explain banking services available to prospective customers and assist them in preparing application form.

53108 TRANSIT CLERKS

Sort, record, prove, and prepare transit items for mailing to or from out-of-city banks to insure correct routing and prompt collection.

53111 LOAN INTERVIEWERS

Interview loan applicants to elicit information; investigate applicants' background and verify references; prepare loan request papers; forward findings, reports, and documents to appraisal department.

53114 CREDIT AUTHORIZERS

Authorize credit charges against customers' accounts.

53117 CREDIT CHECKERS

Investigate history and credit standing of individuals or business establishments applying for credit. Telephone or write to credit departments of business and service establishments to obtain information about applicant's credit standing.

53121 LOAN AND CREDIT CLERKS

Assemble documents, prepare papers, process applications, and complete transactions of individuals applying for loans and credit. Loan Clerks: Review loan papers to insure completeness; operate typewriters, word processors, or personal computers to prepare correspondence, reports, and loan documents from draft; and complete transactions between loan establishment, borrowers, and sellers upon approval of loan. Credit Clerks: Interview applicants to obtain personal and financial data; determine credit worthiness; process applications; and notify customer of acceptance or rejection of credit. Exclude Loan Interviewers.

53123 ADJUSTMENT CLERKS

Investigate and resolve customers' inquiries concerning merchandise, service, billing, or credit rating. Examine pertinent information to determine accuracy of customers' complaints and responsibility for errors. Notify customers and appropriate personnel of findings, adjustments, and recommendations, such as exchange of merchandise, refund of money, credit to customers' accounts, or adjustment to customers' bills.

53126 STATEMENT CLERKS

Prepare and distribute bank statements to customers, answer inquiries, and reconcile discrepancies in records and accounts.

53128 BROKERAGE CLERKS

Perform clerical duties involving the purchase or sale of securities. Duties include writing orders for stock purchases and sales, computing transfer taxes, verifying stock transactions, accepting and delivering securities, informing customers of stock price fluctuations, computing equity, distributing dividends, and keeping records of daily transactions and holdings.

2. INSURANCE WORKERS**53302 INSURANCE ADJUSTERS, EXAMINERS, AND INVESTIGATORS**

Investigate, analyze, and determine the extent of insurance company's liability concerning personal, casualty, or property loss or damages, and attempt to effect settlement with claimants. Correspond with or interview medical specialists, agents, witnesses, or claimants to compile information. Calculate benefit payments and approve payment of claims within a certain monetary limit. Exclude Insurance Sales Agents, Insurance Policy Process Clerks, and Claims Clerks.

53305 INSURANCE APPRAISERS, AUTO DAMAGE

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

53308 INSURANCE EXAMINING CLERKS

Examine life insurance policies held as security for commercial or personal credit loans. Keep records of bank-owned insurance and fire insurance on commodity loans.

53311 INSURANCE CLAIMS CLERKS

Obtain information from insured or designated persons for purpose of settling claim with insurance carrier.

53314 INSURANCE POLICY PROCESSING CLERKS

Process applications for, changes to, reinstatement of, and cancellation of insurance policies. Duties include reviewing insurance applications to insure that all questions have been answered, compiling data on insurance policy changes, changing policy records to conform to insured party's specifications, compiling data on lapsed insurance policies to determine automatic reinstatement according to company policies, canceling insurance policies as requested by agents, and verifying the accuracy of insurance company records. Exclude Insurance Claims Clerks and Banking Insurance Clerks.

3. INVESTIGATIVE AND RELATED WORKERS, EXCEPT INSURANCE**53502 WELFARE ELIGIBILITY WORKERS AND INTERVIEWERS**

Interview and investigate applicants and recipients to determine eligibility for use of social programs and agency resources. Duties include recording and evaluating personal and financial data obtained from individuals; initiating procedures to grant, modify, deny, or terminate eligibility for various aid programs; authorizing grant amounts; and preparing reports. These workers generally receive specialized training and assist Social Service Caseworkers.

53505 INVESTIGATORS, CLERICAL

Contact persons or businesses by telephone to verify employment records, health history, and moral and social behavior. Examine city directories and public records. Write reports on findings and recommendations. Exclude Insurance, Credit, and Welfare Investigators.

53508 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 customers' account; preparing statements to credit department if customer fails to respond; initiating repossession proceedings or service disconnection; keeping records of collection and status of accounts. Exclude workers who collect money from coin boxes.

4. MUNICIPAL AND RELATED WORKERS

53702 COURT CLERKS

Perform clerical duties in court of law; prepare docket of cases to be called; secure information for judges; and contact witnesses, attorneys, and litigants to obtain information for court.

53705 MUNICIPAL CLERKS

Draft agendas and bylaws for town or city council; record minutes of council meetings; answer official correspondence; keep fiscal records and accounts; and prepare reports on civic needs.

53708 LICENSE CLERKS

Issue licenses or permits to qualified applicants. Obtain necessary information; record data; advise applicants on requirements; collect fees; and issue licenses. May conduct oral, written, visual, or performance testing.

5. LODGING AND TRAVEL WORKERS

53802 TRAVEL CLERKS

Provide tourists with travel information, such as points of interest, restaurants, rates, and emergency service. Duties include answering inquiries, offering suggestions, and providing literature pertaining to trips, excursions, sporting events, concerts and plays. May make reservations, deliver tickets, arrange for visas, or contact individuals and groups to inform them of package tours. Exclude Travel Agents.

53805 RESERVATION AND TRANSPORTATION TICKET AGENTS

Make and confirm reservations for passengers and sell tickets for transportation agencies such as airlines, bus companies, railroads, and steamship lines. May check baggage and direct passengers to designated concourse, pier, or track. Exclude workers selling tickets for subways, city buses, ferryboats, and street railways.

53808 HOTEL DESK CLERKS

Accommodate hotel patrons by registering and assigning rooms to guests, issuing room keys, 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.

6. OTHER INDUSTRY SPECIFIC WORKERS

53902 LIBRARY ASSISTANTS AND BOOKMOBILE DRIVERS

Library Assistants: Compile records; sort and shelve books; issue and receive library materials, such as books, pictures, cards, slides, audio and video recordings, and microfilm. Locate library materials for loan and replace materials 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. Bookmobile Drivers: Operate a bookmobile or light truck that pulls a book trailer to specific locations on a predetermined schedule and assist with providing services in mobile library.

53905 TEACHER AIDES AND EDUCATIONAL ASSISTANTS, CLERICAL

Arrange work materials, supervise students at play, and operate audio-visual equipment under guidance of a teacher.

53908 ADVERTISING CLERKS

Receive orders for classified advertising in a newspaper or magazine from customers in person or by telephone. Examine and mark classified advertisements according to copy sheet specifications to guide composing room in assembling type. Verify conformance of published advertisements to specifications for billing purposes.

53911 PROOFREADERS AND COPY MARKERS

Read transcript or proof type setup to detect and mark for correction any grammatical, typographical, or compositional errors. Exclude workers whose primary duty is editing copy. Include proofreaders of Braille.

53914 REAL ESTATE CLERKS

Perform duties concerned with rental, sale, and management of real estate, such as typing copies of listings, computing interest or penalty owed, holding collateral in escrow, and checking due notices on taxes and renewal dates of insurance and mortgage loans.

C. SECRETARIAL AND GENERAL OFFICE OCCUPATIONS

1. SECRETARIES

55102 LEGAL SECRETARIES

Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May review law journals and other legal publications to identify court decisions pertinent to pending cases and submit articles to company officials. Must be familiar with legal terminology, procedures, and documents, as well as legal research.

55105 MEDICAL SECRETARIES

Perform secretarial duties utilizing specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties include taking dictation; and compiling and recording medical charts, reports, and correspondence using a typewriter, word processor, or personal computer. Duties may also include preparing and sending bills to patients or recording appointments.

55108 SECRETARIES, EXCEPT LEGAL AND MEDICAL

Relieve officials of clerical work and minor administrative and business details by scheduling appointments, giving information to callers, taking dictation, composing and typing routine correspondence (using typewriter or word processor), reading and routing incoming mail, filing correspondence and other records, and other assigned clerical duties.

[This occupation was added in 1990, as an aggregation of 55100 SECRETARIES, and 55199 ALL OTHER SECRETARIES.]

2. OTHER SECRETARIAL RELATED AND GENERAL OFFICE WORKERS**55302 STENOGRAPHERS AND/OR COURT REPORTERS**

Use shorthand or speedwriting notes to take dictation, record correspondence, reports, court testimony, examinations, instructions, or other material and transcribes the recorded material.

[This occupation was modified to include court reporters in 1993.]

55305 RECEPTIONISTS AND INFORMATION CLERKS

Answer inquiries and obtain information for general public (e.g., customers, visitors, and other interested parties). Provide information regarding activities conducted at establishment; location of departments, offices, and employees within organization; or services in a hotel. May perform other clerical duties as assigned. Exclude Receptionists who operate switchboards.

55307 TYPISTS, INCLUDING WORD PROCESSING

Use typewriter or word processing equipment to type letters, reports, forms, or other straight copy material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Exclude Key punchers, Secretaries, and Stenographers.

[This occupation was added as an aggregation of 55308 TYPISTS and 55311 TYPISTS, WORD PROCESSING EQUIPMENT, in 1991.]

55314 PERSONNEL CLERKS, 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 on ability, and date of and reason for termination. Compile and type reports from employment records. File employment records. Search employee files and furnish information to authorized persons.

55317 CORRESPONDENCE CLERKS

Compose letters 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 typing correspondence.

55321 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. May be required to classify and file new material.

55323 ORDER CLERKS, MATERIALS, MERCHANDISE, AND SERVICE

Receive and process incoming orders for materials, merchandise, or services such as repairs, installations, or rental of facilities. Duties include informing customers of order receipt, prices, shipping dates, and delays; preparing contracts; and handling complaints. Exclude workers who dispatch as well as take orders for services.

55326 PROCUREMENT CLERKS

Compile information and records to draw up purchase orders for procurement of materials.

55328 STATISTICAL CLERKS

Compile and compute data according to statistical formulas for use in statistical studies. May perform actuarial computations using algebra and trigonometry and compile charts and graphs for use by Actuaries. Include Actuarial Clerks.

55332 INTERVIEWING CLERKS, EXCEPT PERSONNEL AND SOCIAL WELFARE

Interview public to obtain information. Contact persons by telephone, mail, or in person 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. Exclude workers whose primary duty is processing applications.

55335 CUSTOMER SERVICE REPRESENTATIVES, UTILITIES

Interview applicants for water, gas, electric, or telephone service. Talk with customer by phone or in person and receive orders for installation, turn-on, discontinuance, or change in services.

55338 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.

55341 PAYROLL AND TIMEKEEPING CLERKS

Compile and post employee time and payroll data. May compute time worked by employees, worker's production, commission, etc.; computes and posts wages and deductions; may prepare paychecks.

55344 BILLING, COST, AND RATE CLERKS

Compile data, compute fees and charges, and prepare invoices for billing purposes. Duties include computing costs and calculating rates for goods, services, and shipment of goods; posting data; and keeping other relevant records. May involve use of typewriters, calculators, adding and bookkeeping machines, word processors, or personal computers. Exclude workers whose primary duty is operation of special office machines or workers who calculate charges for passenger transportation.

55347 GENERAL OFFICE CLERKS

Perform duties too varied and diverse to be classified in any specific office clerical occupation. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of bookkeeping, typing, stenography, office machine operation, and filing.

D. ELECTRONIC DATA PROCESSING AND OTHER OFFICE MACHINE OCCUPATIONS**56000 ELECTRONIC DATA PROCESSING AND OTHER OFFICE MACHINE WORKERS**

Specialize in the operation of office machines, such as computers, billing machines, copiers, addressing and mailing machines, collators, and data key-entry machines.

NOTE: These workers spend the majority of their time in machine operation. They should not be confused with the majority of office workers who operate office machines as part of their work. Exclude Typists.

56002 BILLING, POSTING, AND CALCULATING MACHINE OPERATORS

Operate machines that automatically perform mathematical processes, such as addition, subtraction, multiplication, and division, to calculate and record billing, accounting, statistical, and other numerical data. Duties include operating special billing machines to prepare statements, bills, and invoices, and operating bookkeeping machines to copy and post data, make computations, and compile records of transactions.

56005 DUPLICATING MACHINE OPERATORS

Operate one of a variety of office machines such as photocopying, photographic, mimeograph, and duplicating machines to make copies. Exclude blueprinting machine operators and operators of offset printing machines and presses.

56008 MAIL MACHINE OPERATORS, PREPARATION AND HANDLING

Operate machines that: Emboss names, addresses, and other matter onto metal plates for use in addressing machines; print names, addresses, and similar information onto items such as envelopes, accounting forms, and advertising literature; address, fold, stuff, seal, and stamp mail; and open envelopes. Exclude workers who prepare incoming and outgoing mail for distribution by hand.

56011 COMPUTER OPERATORS, EXCEPT PERIPHERAL EQUIPMENT

Monitor and control electronic computer to process business, scientific, engineering, and other data according to operating instructions. Exclude operators who control peripheral equipment only.

56014 PERIPHERAL EDP EQUIPMENT OPERATORS

Operate computer peripheral equipment, such as tape or disk drives, printers, card-to-tape or tabulating machines, sorters, or interpreters. Exclude Computer Operators and Data Entry Keyers.

56017 DATA ENTRY KEYERS, EXCEPT COMPOSING

Operate keyboard or other data entry devices to prepare data processing input on cards, disk, or tape. Duties include coding and verifying alphabetic or numeric data.

56021 DATA KEYERS, COMPOSING

Operate photocomposing perforator or comparable data entry composing machines (similar in operation to an electric typewriter) to prepare materials for printing or publication.

56099 ALL OTHER OFFICE MACHINE OPERATORS

All other office machine operators not classified separately above.

E. COMMUNICATIONS, MAIL, AND MESSAGE DISTRIBUTING OCCUPATIONS**1. COMMUNICATIONS EQUIPMENT OPERATORS****57102 SWITCHBOARD OPERATORS**

Operate cord or cordless switchboard to relay incoming, outgoing, and interoffice calls. May supply information to callers and record messages. May also act as receptionist, perform routine clerical work, and type.

57105 DIRECTORY ASSISTANCE OPERATORS

Provide telephone information from central office switchboard. Refer to alphabetical or geographical directories to answer questions or suggest answer sources.

57108 CENTRAL OFFICE OPERATORS

Operate telephone switchboard to establish or assist customers in establishing local or long-distance telephone connections.

57111 TELEGRAPH AND TELETYPE OPERATORS

Operate telegraphic typewriter, telegraph key, facsimile machine, and related equipment to transmit and receive signals or messages. Prepare messages according to prescribed formats. Verify and correct errors in messages. May adjust equipment for proper operation.

57199 ALL OTHER COMMUNICATIONS EQUIPMENT OPERATORS

All other communications equipment operators not classified separately above.

2. MAIL AND MESSAGE DISTRIBUTION WORKERS**57302 MAIL CLERKS, EXCEPT MAIL MACHINE OPERATORS AND POSTAL SERVICE**

Prepare incoming and outgoing mail for distribution. Duties include time stamping, opening, reading, sorting, and routing incoming mail; sealing, stamping, and affixing postage to outgoing mail or packages; and keeping necessary records and completed forms. Exclude workers whose primary duty is mail distribution or operation of mail-preparing and mail-handling machines.

57305 POSTAL MAIL CARRIERS

Sort mail for delivery. Deliver mail on established route by vehicle or on foot.

57308 POSTAL SERVICE CLERKS

Perform any combination of tasks in a post office, such as receive letters and parcels; sell postage and revenue stamps, postal cards, and stamped envelopes; fill out and sell money orders; place mail in pigeon holes of mail rack or in bags according to State, address, or other scheme; and examine mail for correct postage.

57311 MESSENGERS

Run errands. Sort and deliver messages, documents, packages, and other items to offices or departments within an establishment or to other business concerns, traveling by foot, bicycle, motorcycle, automobile, or public conveyance. May use telephone to complete assigned tasks.

F. MATERIAL RECORDING, SCHEDULING, DISPATCHING, AND DISTRIBUTING OCCUPATIONS**58000 MATERIAL RECORDING, SCHEDULING, DISPATCHING, AND DISTRIBUTING WORKERS**

Dispatch equipment, materials, and workers. Examine orders for goods and services. Receive, store, schedule, issue, ship, requisition, and account for materials in store, in use, or in production. Include Dispatchers, Production and Planning Clerks, Expeditors, Shipping Clerks, Stock Clerks, Meter Readers, Weighers, Checkers, and Samplers. In manufacturing, these clerical workers are often closely related to the production process.

58002 DISPATCHERS, POLICE, FIRE, AND AMBULANCE

Receive complaints from public concerning crimes and police emergencies. Broadcast orders to police radio patrol units in vicinity of complaint to investigate. Operate radio and telephone equipment to receive reports of fires and medical emergencies and relay information or orders to proper officials.

58005 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 use of radio or telephone to transmit assignments and compiling statistics and reports on work progress.

58008 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, which are primarily clerical in nature, include reviewing and distributing production schedules and work orders; conferring with department supervisors to determine progress of work and completion dates; and compiling reports on progress of work and production problems. Work may also include scheduling workers and estimating costs; routing and delivering parts to insure production quotas are met; scheduling shipment of parts; keeping inventory of material in departments; insuring vendors ship merchandise on promised date; and writing special orders for services and merchandise. Exclude workers whose primary duties are weighing, measuring, and checking merchandise, supplies, and equipment. Exclude workers who engage in material expediting of a nonclerical nature.

58011 TRANSPORTATION AGENTS

Expedite movement of freight, mail, baggage, and passengers through airline terminals. Route inbound and outbound air freight shipments. May prepare airway bill of lading on freight and record baggage, mail, freight, weights, and number of passengers on airplane.

58014 METER READERS, UTILITIES

Read electric, gas, water, or steam consumption meters and record volume used by residential and commercial customers.

58017 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. Include workers who collect and keep record of samples of products or materials. Exclude Production Samplers and Weighers.

58021 MARKING CLERKS

Print and attach price tickets to articles of merchandise using one or several methods, such as marking price on tickets by hand or using ticket-printing machine.

58023 STOCK CLERKS - STOCKROOM, WAREHOUSE OR STORAGE YARD

Receive, store, and issue materials, equipment, and other items from stockroom, warehouse, or storage yard. Keep records and compile stock reports. Exclude stockroom laborers and workers whose primary duties involve shipping, weighing, and checking.

58026 ORDER FILLERS, WHOLESALE AND RETAIL SALES

Fill customers' mail and telephone orders from stored merchandise in accordance with specifications on sales slips or order forms. Duties may include computing prices of items, completing order receipts, keeping records of out-going orders, and requisitioning additional materials, supplies, and equipment. Exclude Laborers, Stock Clerks, and workers whose primary duties involve weighing and checking.

58028 SHIPPING, RECEIVING, AND TRAFFIC CLERKS

Verify and keep records on incoming and outgoing shipments. Prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying, and recording incoming merchandise or material; and arranging for the transportation of products. Exclude Laborers, Stock Clerks, and workers whose primary duties involve weighing and checking.

58099 ALL OTHER MATERIAL RECORDING, SCHEDULING, AND DISTRIBUTING WORKERS

All other material recording, scheduling, and distributing workers not classified separately above.

G. OTHER CLERICAL AND ADMINISTRATIVE SUPPORT OCCUPATIONS**59999 ALL OTHER CLERICAL AND ADMINISTRATIVE SUPPORT WORKERS**

All other clerical and administrative support workers not classified separately above.

V. SERVICE OCCUPATIONS

60000 SERVICE OCCUPATIONS

Include in this division workers in occupations relating to protective service, food service, health assisting service, cleaning and building service, and personal service..... Occupations in this section are organized as follows: Supervisory; protective services; food services; health; cleaning; personal services; and a residual "All Other" category.

A. FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS-SERVICE

61000 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - SERVICE WORKERS

Directly supervise and coordinate activities of workers who provide protective services, food services, health assisting services, cleaning and building services, personal services, and other services. Managers/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work and may also engage in the same work as the workers they supervise. Exclude work leaders who spend 20 percent or more of their time at tasks similar to those of the employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

61002 FIRE FIGHTING AND PREVENTION SUPERVISORS

Supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.

61005 POLICE AND DETECTIVE SUPERVISORS

Supervise and coordinate activities of members of police force.

61008 HOUSEKEEPING SUPERVISORS

Supervise work activities of cleaning personnel to insure clean, orderly, and attractive rooms in hotels, hospitals, educational institutions, and similar establishments. Assign duties, inspect work, and investigate complaints regarding housekeeping service and equipment and take corrective action. May purchase housekeeping supplies and equipment, take periodic inventories, screen applicants, train new employees, and recommend dismissals.

61099 ALL OTHER SUPERVISORS AND MANAGERS/SUPERVISORS - SERVICE WORKERS

All other supervisors and managers/supervisors of service workers not classified separately above.

B. PROTECTIVE SERVICE OCCUPATIONS

63000 PROTECTIVE SERVICE WORKERS

Provide protection against fire, accidents, damage, and other emergencies. Maintain custody of prisoners in jails, reformatories, or penitentiaries. Include Fire Fighters and Inspectors, Police Patrol Officers and Detectives, Game Wardens, Crossing Guards, and Railroad and Transit Police.

63002 FIRE INSPECTORS

Inspect buildings to detect fire hazards and enforce local ordinances and State laws. Investigate and gather facts to determine cause of fires and explosions and enforce fire laws.

63005 FOREST FIRE INSPECTORS AND PREVENTION SPECIALISTS

Administer fire regulations. Locate and report forest fires and weather conditions, usually from remote locations within forest or logging area. Inspect area for fire hazards and equipment for serviceability. May work from a station or patrol area.

63008 FIRE FIGHTERS

Control and extinguish fires, protect life and property, and maintain equipment as paid volunteer or employee of city, township, State, or Federal government.

63011 POLICE DETECTIVES

Conduct investigations to prevent or solve crimes.

63014 POLICE PATROL OFFICERS

Maintain order, enforce laws and ordinances, and protect life and property in an assigned patrol district. Perform combination of following duties: Patrol a specific area on foot or in a vehicle; direct traffic; issue traffic summonses; investigate accidents; apprehend, arrest, and process prisoners; and give evidence in court.

63017 CORRECTION OFFICERS AND JAILERS

Guard inmates in penal or rehabilitative institution in accordance with established regulations and procedures. May guard prisoners in transit between jail, courtroom, prison, or other point, traveling by automobile or public transportation. Include Deputy Sheriffs who spend the majority of their time guarding prisoners in county correctional institutions.

63021 PARKING ENFORCEMENT OFFICERS

Patrol assigned area such as public parking lot or section of city to issue tickets to overtime parking violators and illegally parked vehicles.

63023 BAILIFFS

Open court by announcing entrance of judge. Seat witnesses and jurors in specified areas of courtroom. Eject or arrest individuals disturbing proceedings.

63026 UNITED STATES MARSHALS

Perform such law enforcement activities as serve civil writs and criminal warrants issued by federal courts; trace and arrest persons wanted under court warrants; seize and dispose of property under court orders; safeguard and transport prisoners and jurors; and maintain order in courtroom.

63028 CRIMINAL INVESTIGATORS, PUBLIC SERVICE

Plan and conduct investigations related to suspected violations of federal, State, or local laws.

63032 SHERIFFS AND DEPUTY SHERIFFS

Enforce law and order in rural or unincorporated districts or serve legal processes of courts. May patrol courthouse, guard court or grand jury, or escort defendants. Exclude Deputy Sheriffs who spend the majority of their time guarding prisoners in county correctional institutions.

63035 DETECTIVES AND INVESTIGATORS, EXCEPT PUBLIC

Protect property, merchandise, and money of store or similar establishment by detecting theft, shoplifting, or other unlawful practices by public or employees. Perform necessary action to preserve order and enforce standards of decorum established by management. Include Investigators who conduct private investigations, such as obtaining confidential information, seeking missing persons, or investigating crimes and thefts.

63038 RAILROAD AND TRANSIT POLICE AND SPECIAL AGENTS

Protect and police railroad and transit property, employees, or passengers. Include workers who coordinate security staff.

63041 FISH AND GAME WARDENS

Patrol assigned area to prevent game law violations. Investigate reports of damage to crops or property by wildlife. Compile biological data.

63044 CROSSING GUARDS

Guide or control vehicular or pedestrian traffic at such places as street and railroad crossings and construction sites.

63047 GUARDS AND WATCH GUARDS

Stand guard at entrance or patrol premises to prevent theft, violence, or infractions of rules.

63099 ALL OTHER PROTECTIVE SERVICE WORKERS

All other protective service workers not classified separately above.

C. FOOD AND BEVERAGE PREPARATION AND SERVICE OCCUPATIONS

- 65000 **FOOD AND BEVERAGE PREPARATION AND SERVICE WORKERS**
Prepare and serve food and beverages. Include Cooks, Cafeteria Workers, Waiters and Waitresses, and Kitchen Workers.
- 65002 **HOSTS AND HOSTESSES, RESTAURANT, LOUNGE, OR COFFEE SHOP**
Welcome patrons, seat them at tables or in lounge, and insure quality of facilities and service.
- 65005 **BARTENDERS**
Mix and serve to patrons, directly or through wait staff, alcoholic and nonalcoholic drinks following standard recipes.
- 65008 **WAITERS AND WAITRESSES**
Serve food and/or beverages to patrons at tables. Usually take order from patron and make out check. May set table with linen and silverware and take payment from patron. May serve customers at counter as well as table. Exclude workers who only work at counters.
- 65011 **FOOD SERVERS, OUTSIDE**
Serve food to patrons outside of a restaurant environment, such as in hotels, hospital rooms, or cars. Exclude Food Vendors.
- 65014 **DINING ROOM AND CAFETERIA ATTENDANTS AND BARTENDER HELPERS**
Perform any combination of the following duties to facilitate food service: Carry dirty dishes from dining room to kitchen; replace soiled table linens; set tables with silverware and glassware; replenish supply of clean linens, silverware, glassware, and dishes; supply service bar with food, such as soups, salads, and desserts; and serve ice water, butter, and coffee to patrons. May wash tables.
- 65017 **COUNTER ATTENDANTS - LUNCHROOM, COFFEE SHOP, OR CAFETERIA**
Serve food to diners at counter or from a steam table. Exclude Counter Attendants who also wait tables.
- 65021 **BAKERS, BREAD AND PASTRY**
Mix and bake ingredients according to recipes to produce small quantities of breads, pastries, and other baked goods for consumption on premises or for sale as specialty baked goods.
- 65023 **BUTCHERS AND MEAT CUTTERS**
Cut, trim, and prepare carcasses and consumer-sized portions of meat for sale or for use in food service establishments. Exclude butchers working in slaughtering, meat packing, or prepared-meat establishments.

65026 COOKS, RESTAURANT

Prepare, season, and cook soups, meats, vegetables, desserts, and other foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.

65028 COOKS, INSTITUTION OR CAFETERIA

Prepare and cook family-style meals for institutions such as schools, hospitals, or cafeterias. Usually prepare meals in large quantities rather than to individual order. May cook for employees in office building or other large facility.

65032 COOKS, FAST FOOD

Prepare and cook food in a fast food restaurant with a limited menu. Duties of the cooks are limited to preparation of a few basic items and normally involve operating large-volume single-purpose cooking equipment.

[Title changed from COOKS, SPECIALTY FAST FOOD to COOKS, FAST FOOD in 1996.]

65035 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. Exclude Cooks, Fast Food.

65038 FOOD PREPARATION WORKERS

Perform a variety of food preparation duties, such as preparing cold foods and maintaining and cleaning kitchen work areas, equipment, and utensils. Perform simple tasks such as preparing shellfish or slicing meat. May brew coffee and tea or prepare sandwiches.

65041 COMBINED FOOD PREPARATION AND SERVICE WORKERS

Perform duties which combine both food preparation and food service. Workers who spend more than 80 percent of their time in one job should be reported in that occupation.

65099 ALL OTHER FOOD SERVICE WORKERS

All other food service workers not classified separately above.

D. HEALTH SERVICE AND RELATED OCCUPATIONS**66000 HEALTH SERVICE AND RELATED WORKERS**

Assist and work under the direction of Physicians, Dentists, Nurses, Therapists, Pharmacists, and other health related professional, paraprofessional, and technical workers. Workers in these occupations provide auxiliary services such as assisting in the care of patients, relieving nurses of heavier work, preparing treatment rooms, transporting patients, assisting therapists, and mixing pharmaceutical preparations.

66002 DENTAL ASSISTANTS

Assist dentist at chair, set up patient and equipment, keep records, and perform related duties as required.

66005 MEDICAL ASSISTANTS

Perform various duties under the direction of physician in examination and treatment of patients. Prepare treatment room, inventory supplies and instruments, and set up patient for attention of physician. Hand instruments and materials to physician as directed. Schedule appointments, keep medical records, and perform secretarial duties.

66008 NURSING AIDES, ORDERLIES, AND ATTENDANTS

Work under the direction of nursing or medical staff to provide auxiliary services in the care of patients. Perform duties such as answering patient's call bell, serving and collecting food trays, and feeding patients. Orderlies are primarily concerned with setting up equipment and relieving nurses of heavier work. Exclude Psychiatric Aides and Home Health Aides.

66011 HOME HEALTH AIDES

Care for elderly, convalescent, or handicapped person in home of patient. Perform duties for patient such as changing bed linen; preparing meals; assisting in and out of bed; bathing, dressing, and grooming; and administering oral medications under doctors' orders or direction of nurse. Exclude Nursing Aides and Homemakers.

66014 PSYCHIATRIC AIDES

Assist mentally ill patients, working under direction of nursing and medical staff.

66017 PHYSICAL AND CORRECTIVE THERAPY ASSISTANTS AND AIDES

Prepare patient and/or administer physical therapy treatment, such as massages, traction, and heat, light and sound treatment. Instruct, motivate, and assist patients with learning and improving functional activities. Normally work under the direction of a Physical or Corrective Therapist.

66021 OCCUPATIONAL THERAPY ASSISTANTS AND AIDES

Assist Occupational Therapists in administering medically-oriented occupational programs to assist in rehabilitating patients in hospitals and similar institutions.

66023 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 and rendering first aid. May be required to have Red Cross first-aid training certificate.

66026 PHARMACY AIDES

Records drugs delivered to the pharmacy, stores incoming merchandise, and informs the supervisor of stock needs. May operate cash register and accept prescriptions for filling.

66099 ALL OTHER HEALTH SERVICE WORKERS

All other health service workers not classified separately above.

E. CLEANING AND BUILDING SERVICE OCCUPATIONS**67000 CLEANING AND BUILDING SERVICE WORKERS**

Clean and maintain the upkeep of hotels, apartments, buildings, or private households. In commercial establishments, these workers may have additional duties such as tending furnaces, routine maintenance, cleaning sidewalks, operating elevators, or pest control. Include both heavy and light cleaning workers. Exclude workers whose primary duty is repair work.

67002 MAIDS AND HOUSEKEEPING CLEANERS

Perform any combination of tasks to maintain private households or commercial establishments, such as hotels, restaurants and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, cleaning rooms and halls, and arranging furniture.

67005 JANITORS AND CLEANERS, EXCEPT MAIDS AND HOUSEKEEPING CLEANERS

Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as operating motor-driven cleaning equipment, mopping floors, 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 additions, and cleaning snow or debris from sidewalk.

67008 PEST CONTROLLERS AND ASSISTANTS

Spray or release chemical solutions or toxic gases and set mechanical traps to kill pests and vermin such as mice, termites, and roaches, that infest buildings and surrounding areas.

67011 ELEVATOR OPERATORS

Operate elevator to transport passengers and/or freight between floors of such buildings as offices, apartment houses, hotels, and stores.

67099 ALL OTHER CLEANING AND BUILDING SERVICE WORKERS

All other cleaning and building service workers not classified separately above.

F. PERSONAL SERVICE OCCUPATIONS**68002 BARBERS**

Provide customers with barbering services, including cutting, trimming, shampooing, and styling hair. Give shaves and shape contour of hair line. May sell lotions, tonics, and other cosmetic supplies.

68005 HAIRDRESSERS, HAIRSTYLISTS, AND COSMETOLOGISTS

Provide beauty services, such as suggesting hair styles, cutting and treating hair and scalp, applying make-up, dressing wigs, and electrolysis, to customers. Exclude Shampooers, Manicurists, and Beauty School Instructors.

68008 MANICURISTS

Clean, shape, and polish customers' fingernails and toenails.

68011 SHAMPOOERS

Specialize in shampooing hair and scalp with water or liquid shampoo and rinsing hair with prepared rinses.

68014 AMUSEMENT AND RECREATION ATTENDANTS

Perform any of a variety of attending duties at amusement or recreation facility. Schedule use of recreation facilities, allocate equipment to participants of sporting events or recreational pursuits, collect fees for games played, or operate carnival rides and amusement concessions.

68017 GUIDES

Escort individuals or groups on cruises, sightseeing tours, or through places of interest such as industrial establishments, public buildings, and art galleries.

68021 USHERS, LOBBY ATTENDANTS, AND TICKET TAKERS

Assist patrons at entertainment events, such as sporting events, motion pictures, or theater performances. Collect admission tickets and passes from patrons. May assist in finding seats, searching for lost articles, and locating such facilities as rest rooms and telephones.

68023 BAGGAGE PORTERS AND BELLHOPS

Carry baggage for travelers at transportation terminals or for guests at hotels or similar establishments. Additional duties include assisting handicapped persons, running errands, delivering ice, and directing people to their desired destinations.

68026 FLIGHT ATTENDANTS

Provide personal services to insure the safety and comfort of airline passengers during flight. Greet passengers, verify tickets, record destinations, and assign seats. Explain use of safety equipment. Serve meals and beverages.

68028 TRANSPORTATION ATTENDANTS, EXCEPT FLIGHT ATTENDANTS AND BAGGAGE PORTERS

Provide personal services to insure the safety and comfort of passengers aboard ship, bus, or train. Greet passengers, explain use of safety equipment, serve meals and beverages, and answer questions related to travel. Exclude Flight Attendants.

68032 WARDROBE, AND LOCKER AND DRESSING ROOM ATTENDANTS

Care for costumes or uniforms. Distribute and keep record of clothing and related equipment issued and returned. Assist in dressing. May select and fit costumes for cast members, arrange for cleaning and pressing, and make minor alterations. Exclude Tailors and Dressmakers.

68035 PERSONAL AND HOME CARE AIDES

Perform a variety of tasks at places of residence. Duties include keeping house and advising families having problems with such things as nutrition, cleanliness, and household utilities. Exclude Nursing Aides and Home Health Aides.

68038 CHILD CARE WORKERS

Attend to children at child care centers, schools, businesses, and institutions. Perform variety of tasks such as dressing, feeding, bathing, and overseeing play. Exclude Preschool Teachers and Teacher Aides.

68041 FUNERAL ATTENDANTS

Perform variety of tasks during funeral such as placing casket in parlor or chapel prior to service; arranging floral offerings or lights around casket; directing or escorting mourners; closing casket; and issuing and storing funeral equipment.

G. OTHER SERVICE OCCUPATIONS**69999 ALL OTHER SERVICE WORKERS**

All other service workers not classified separately above.

VI. AGRICULTURAL, FORESTRY, FISHING, AND RELATED OCCUPATIONS

70000 AGRICULTURAL, FORESTRY, FISHING, AND RELATED OCCUPATIONS

Include in this division workers concerned with agricultural production, forestry, and fishing. Also included in this division are agriculture related workers such as Animal Caretakers and Groundskeepers.

A. FIRST LINE SUPERVISORS

72002 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - AGRICULTURAL, FORESTRY, FISHING, AND RELATED WORKERS

Directly supervise and coordinate the activities of agricultural, forestry, fishing, and related workers. May supervise helpers assigned to these workers.

Managers/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work, and may also engage in the same work as the workers they supervise. Exclude work leaders who spend 20 percent or more of their time at tasks similar to those of the employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

B. TIMBER CUTTING AND LOGGING OCCUPATIONS- SEE ALSO MATERIAL MOVING - NEXT DIVISION

73002 FALLERS AND BUCKERS

Fell trees and saw into specified log lengths, working alone or as a member of a team.

73005 CHOKE SETTERS

Fasten chokers around logs, preparing to yard them from felling and bucking area to storage or loading landing.

73008 LOG-HANDLING EQUIPMENT OPERATORS

Operate log handling equipment to unload log trucks and gondolas or deck logs by species, size, and sort.

73011 LOGGING TRACTOR OPERATORS

Drive tractor equipped with one or more accessories, such as bulldozer blade, frontal hydraulic shear, grapple, logging arch, cable winches, hoisting rack, or crane boom, to fell tree, to skid, load and unload, or stack logs, or to pull stumps or clear brush.

73099 ALL OTHER TIMBER CUTTING AND RELATED LOGGING WORKERS

All other timber cutting and related logging workers not classified separately above.

C. OTHER AGRICULTURAL, FORESTRY, FISHING, AND RELATED OCCUPATIONS

79002 FOREST AND CONSERVATION WORKERS

Develop, maintain, and protect forest, forested areas, and woodlands through such activities as raising and transporting tree seedlings; combating insects, pests, and diseases harmful to trees; and controlling erosion and leaching of forest soil. Include Forester Aides, Seedling Pullers, and Tree Planters.

79008 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. Exclude Log Inspectors who are primarily buyers.

79011 GRADERS AND SORTERS, AGRICULTURAL PRODUCTS

Grade, sort, or classify unprocessed food and other agricultural products by size, weight, color, or condition. Exclude Inspectors and Graders of processed agricultural products.

79015 ANIMAL BREEDERS

Breed livestock or pets, such as cattle, goats, horses, sheep, swine, dogs, and cats. Breed animals for purposes such as riding, working, or show; and for products such as milk, wool, meat, and hair. Select and breed animals according to knowledge of animals' genealogy, characteristics, and offspring.

[This occupation was added in 1992.]

79016 ANIMAL TRAINERS

Train animals for riding, harness, security, or obedience. Accustom animals to human voice and contact; and condition animals to respond to oral, hand, spur, and rein 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.

[This occupation was added in 1992.]

79017 ANIMAL CARETAKERS, EXCEPT FARM

Feed, water, groom, exercise, or otherwise care for small or large animals, fish, or birds in zoos, circuses, pounds, laboratories, animal hospitals, aquariums, kennels, or stables. Clean and repair cages, pens, or fish tanks. May administer tests to animals or give treatments to sick or injured animals. May keep records of feedings, tests, and treatments; and of animals received and discharged.

[This occupation was added in 1992.]

79021 FARM EQUIPMENT OPERATORS

Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops.

79033 PRUNERS

Prune and treat ornamental and shade trees and shrubs in yards and parks to improve their appearance, health, and value. Cut away dead and excess branches from trees using handsaws, pruning hooks, sheers, and clippers. May use truck-mounted hydraulic lifts and power pruners. May scrape decayed matter from cavities in trees and fill holes with cement to promote healing and prevent further deterioration. Exclude workers who also perform duties of Sprayers/Applicators or Lawn Maintenance Workers.

[This occupation was added in 1992.]

79036 SPRAYERS/APPLICATORS

Spray herbicides, pesticides, and fungicides on trees, shrubs, and lawns using hoses and truck-mounted tank. Fill sprayer tank with water and chemicals according to prescribed formula. May use portable spray equipment. Exclude workers who also perform duties of Lawn Maintenance Workers or Pruners.

[This occupation was added in 1992.]

79041 LABORERS, LANDSCAPING AND GROUNDSKEEPING

Landscape and/or maintain grounds of property using hand or power tools or equipment. May work in nursery facility or at customer location. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, and sprinkler installation. Workers may help brick and stone masons.

[This occupation was added in 1995, replacing 79005 NURSERY WORKERS; 79014 GARDENERS AND GROUNDSKEEPERS; 79030 GARDENERS AND GROUNDSKEEPERS; and 79038 LAWN MAINTENANCE WORKERS.]

79806 VETERINARY ASSISTANTS

Examine animals for veterinarian; prepare animals for surgery; perform post-operational medical treatment as needed; and give medications to animals. Usually works directly under veterinarian. Receive extensive training on the job and may also have some postsecondary education such as trade school or junior college.

[This occupation was added in 1992.]

79856 FARMWORKERS, FOOD AND FIBER CROPS

Manually plant, cultivate, and harvest food and fiber products such as grains, vegetables, fruits, nuts, and field crops (e.g., cotton, mint, hops, and tobacco). 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 fungicides, herbicides, or pesticides; and packing and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities. Include workers involved in expediting pollination and those who cut seed tuber crops into sections for planting.

[This occupation was added in 1995 as a result of the disaggregation of occupation 79855 GENERAL FARM WORKERS.]

79858 FARMWORKERS, FARM AND RANCH ANIMALS

Attend to live farm or ranch animals that may include cattle, sheep, swine, goats, and poultry produced for animal products such as meat, fur, skins, feathers, milk, and eggs. Duties may include feeding, watering, herding, grazing, castrating, branding, debeaking, 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. Include workers who tend dairy milking machines, shear wool from sheep, collect eggs in hatcheries, place shoes on animals' hooves, and tend bee colonies.

[This occupation was added in 1995 as a result of the disaggregation of occupation 79855 GENERAL FARM WORKERS.]

79999 ALL OTHER AGRICULTURAL, FORESTRY, FISHING, AND RELATED WORKERS

All other agricultural, forestry, fishing, and related workers not classified separately above.

VII. PRODUCTION, CONSTRUCTION, OPERATING, MAINTENANCE, AND MATERIAL HANDLING OCCUPATIONS

80000 PRODUCTION, CONSTRUCTION, OPERATING, MAINTENANCE, AND MATERIAL HANDLING OCCUPATIONS

Include in this division all skilled, semiskilled, and unskilled workers performing machine and manual tasks involving production, construction, operating, maintenance, repair, and material handling operations..... Occupations in this section are organized as follows: Supervisory; inspecting; repair; construction; precision production; machine setting, operating, and tending; assembling and hand working; plant and system operation; transportation and material-moving equipment operating; and helpers, laboring, and manual material moving..... Special instructions: Because of the differing levels of experience and training required, production workers performing precision tasks (whether hand or machine) are reported separately. In addition, the remaining production worker groups are divided between machine and manual operations. The use of hand-held power tools is considered a manual operation for the purpose of this survey.

A. FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS- PRODUCTION, CONSTRUCTION, MAINTENANCE, AND RELATED

81000 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - PRODUCTION, CONSTRUCTION, MAINTENANCE, AND RELATED WORKERS

Directly supervise and coordinate activities of production, construction, extraction, transportation, maintenance, and related workers and their helpers.

Managers/supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work, and may also engage in the same work as the workers they supervise. Exclude work leaders who spend 20 percent or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

81002 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - MECHANICS, INSTALLERS, AND REPAIRERS

Directly supervise and coordinate activities of mechanics, repairers, and installers and their helpers. Managers/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work, and may also engage in the same repair work as the workers they supervise. Exclude work leaders who spend 20 percent or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

**81005 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS -
CONSTRUCTION TRADES AND EXTRACTIVE WORKERS**

Directly supervise and coordinate activities of construction or extractive workers. Managers/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work, and may also engage in the same construction work as the workers they supervise. Exclude work leaders who spend 20 percent or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

**81008 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - PRODUCTION
AND OPERATING WORKERS**

Directly supervise and coordinate activities of production and operating workers, such as testers, precision workers, machine setters and operators, assemblers, fabricators, or plant and system operators. Managers/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work, and may also engage in the same production work as the workers they supervise. Exclude work leaders who spend 20 percent or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

**81011 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS -
TRANSPORTATION AND MATERIAL-MOVING MACHINE AND VEHICLE
OPERATORS**

Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators. May supervise helpers assigned to these workers. Managers/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work, and may also engage in the same work as the workers they supervise. Exclude work leaders who spend 20 percent or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

**81017 FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - HELPERS,
LABORERS, AND MATERIAL MOVERS, HAND**

Directly supervise and coordinate activities of helpers, laborers, and material movers. Managers/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work, and may also engage in the same hand labor as the workers they supervise. Exclude work leaders who spend 20 percent or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

- 81099 ALL OTHER FIRST-LINE SUPERVISORS AND MANAGERS/SUPERVISORS - PRODUCTION, CONSTRUCTION, MAINTENANCE, AND RELATED WORKERS
All other first-line supervisors in this category not classified separately above.

B. INSPECTORS AND RELATED OCCUPATIONS

83000 INSPECTORS AND RELATED WORKERS

Inspect, test, grade, sort, or perform related tasks such as sampling. Exclude management-related inspectors who enforce government or company regulations, clerical (record keeping) samplers and weighers, and agriculture product graders and sorters (i.e., grading and sorting unprocessed food or other agricultural products).

83002 PRECISION INSPECTORS, TESTERS, AND GRADERS

Perform precision inspecting, testing, and grading of parts, products, and equipment for defects, wear, and deviations from specifications. The majority of these workers use precision measuring instruments and complex test equipment and hand tools. May make minor repairs. Exclude workers who combine inspection and testing with major repair work.

83005 PRODUCTION INSPECTORS, TESTERS, GRADERS, SORTERS, SAMPLERS, AND WEIGHERS

Inspect, test, grade, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products. Work may be performed before, during, or after processing.

83008 TRANSPORTATION INSPECTORS

Inspect equipment or goods in connection with the safe transport of cargo or people. Include rail transport inspectors, such as freight inspectors, car inspectors, rail inspectors, and other nonprecision inspectors of other types of transportation vehicles. Exclude Precision Inspectors.

83099 ALL OTHER INSPECTORS, TESTERS, AND RELATED WORKERS

All other inspectors, testers, and related workers not classified separately above.

C. MECHANICS, INSTALLERS, AND REPAIRERS

85000 MECHANICS, INSTALLERS, AND REPAIRERS

Repair, maintain, and adjust motor vehicles, equipment, machines, and tools. Includes machinery repair, auto repair, and communications equipment repair. May also include installing as well as repairing equipment and machinery. Repair work may be performed on or off premises. Include workers who do routine machinery maintenance such as oiling, changing parts (blades, rollers, etc.), and filling reservoirs. Exclude workers who only perform routine setting and adjusting of production machinery.

1. MACHINERY AND RELATED MECHANICS, INSTALLERS, AND REPAIRERS

85110 MACHINERY MAINTENANCE MECHANICS

Repair and maintain the operating condition of industrial production and processing machinery, printing machinery, and refinery and pipeline distribution systems. Duties include repairing machinery and mechanical equipment, such as pumps, conveyor systems, and motors, in accordance with diagrams, operating manuals, or manufacturer's specifications. Exclude Millwrights and Mobile Heavy Equipment Mechanics, such as crane, bulldozer, grader, or conveyor mechanics.

85112 MACHINERY MAINTENANCE MECHANICS, TEXTILE MACHINES

Adjust and repair one or a variety of textile machines. Machines may be of one group or type called a section.

85113 MACHINERY MAINTENANCE MECHANICS, SEWING MACHINES

Repair, adjust, and maintain sewing machines in sewing departments of industrial establishments, homes, or shops.

85116 MACHINERY MAINTENANCE MECHANICS, MARINE EQUIPMENT

Repair mechanical equipment aboard ships and other marine craft and floating structures. Exclude Outboard Motor Mechanics.

85117 UNDERGROUND MINE MACHINERY MECHANICS

Repair, adjust, and maintain underground mining machinery.

85118 MACHINERY MAINTENANCE MECHANICS, WATER OR POWER GENERATION PLANT

Install, adjust, repair, and maintain machinery in power generating stations and water treatment plants. Duties include the repair and maintenance of: Mechanical elements of generators, waterwheels, piping, and water-inlet controls in generating stations; steam boilers, condensers, pumps, compressors, and similar equipment in gas manufacturing plants; and equipment used to process and distribute water for human consumption and industrial use.

85119 ALL OTHER MACHINERY MAINTENANCE MECHANICS

All other machinery maintenance mechanics not classified separately above.

85123 MILLWRIGHTS

Install new machinery and heavy equipment according to layout plans, blueprints, and other drawings. Dismantle and move machinery and heavy equipment when changes in plant layout are required. Use a variety of hand tools, hoists, dollies, and trucks. May construct foundations for machines.

85126 REFRACTORY MATERIALS REPAIRERS, EXCEPT BRICKMASONS

Build or repair furnaces, kilns, cupolas, boilers, converters, ladles, soaking pits, ovens, etc., using refractory materials. May pack insulation or repair casings and linings. Exclude Refractory Brickmasons.

85128 MACHINERY MAINTENANCE WORKERS

Change parts, lubricate machinery, and perform other routine machinery maintenance. Exclude workers who repair machinery.

85132 MAINTENANCE REPAIRERS, GENERAL UTILITY

Perform work involving two or more maintenance skills to keep machines, mechanical equipment, or structure of an establishment in repair. Duties may involve pipefitting, boilermaking, insulating, welding, machining, machine and equipment repairing, carpentry, and electrical work. May also include planning and laying out of work relating to repairs; repairing electrical and/or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs. This occupation is generally found in small establishments where specialization in maintenance work is impractical.

2. MOBILE EQUIPMENT MECHANICS, INSTALLERS, AND REPAIRERS**85302 AUTOMOTIVE MECHANICS**

Adjust, repair, and overhaul automotive vehicles. May be designated according to specialties, such as Brake Repairers, Transmission Mechanics, or Front-end Mechanics. Exclude Auto Body Repairers, Bus and Truck Mechanics, Diesel Engine Specialists, and Electrical Systems Specialists.

85305 AUTOMOTIVE BODY AND RELATED REPAIRERS

Repair, repaint, and refinish automotive vehicle bodies; straighten vehicle frames; and replace damaged vehicle glass.

85308 MOTORCYCLE REPAIRERS

Repair and overhaul motorcycles, motor scooters, mopeds, or similar motorized vehicles.

85311 BUS AND TRUCK MECHANICS AND DIESEL ENGINE SPECIALISTS

Repair and maintain the operating condition of trucks, buses, and all types of diesel engines. Include mechanics working primarily with automobile diesel engines.

85314 MOBILE HEAVY EQUIPMENT MECHANICS, EXCEPT ENGINES

Repair and maintain mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining. Exclude Rail Car Repairers and Diesel Engine Specialists.

85317 RAIL CAR REPAIRERS

Repair and rebuild railroad rolling stock, mine cars, and trolley or subway cars, according to Federal and company regulations and specifications. Exclude Engine Specialists.

85321 FARM EQUIPMENT MECHANICS

Maintain, repair, and overhaul farm machinery and vehicles, such as tractors, harvesters, and irrigation systems. Include repairers of dairy equipment. Exclude Engine Specialists.

85323 AIRCRAFT MECHANICS

Repair and maintain the operating condition of aircraft assemblies, such as hydraulic and pneumatic systems, landing gear, propeller assemblies, fuel tanks, and airframe assemblies. Inspect, test, modify, and install equipment according to specifications, using tools such as power shears, acetylene welding equipment, rivet guns, and air or electric drills. Include Helicopter Repairers. Exclude Aircraft Engine Specialists and Aircraft Electricians.

85326 AIRCRAFT ENGINE SPECIALISTS

Repair and maintain the operating condition of aircraft engines. Include Helicopter Engine Mechanics. Exclude Electrical System Specialists and Aircraft Mechanics whose primary duties do not involve engine repair.

85328 SMALL ENGINE SPECIALISTS

Repair and maintain the operating condition of nonautomobile gasoline-powered internal combustion engines and the equipment powered by those engines. Include repairers of outboard motors, snowmobiles, lawn mowers, and chain saws. Exclude Motorcycle Repairers.

3. COMMUNICATIONS EQUIPMENT MECHANICS, INSTALLERS, AND REPAIRERS**85502 CENTRAL OFFICE AND PBX INSTALLERS AND REPAIRERS**

Test, analyze, and repair telephone or telegraph circuits and equipment at a central office location using test meters and hand tools. Analyze and repair defects in communications equipment on customers' premises using circuit diagrams, polarity probes, meters, and a telephone test set. May install equipment.

85505 FRAME WIRERS, CENTRAL OFFICE

Connect wires from telephone lines and cables to distributing frames in telephone company central office, using soldering iron and other hand tools.

85508 TELEGRAPH AND TELETYPE INSTALLERS AND MAINTAINERS

Install and repair telegraphic transmitting and receiving equipment, following floor plan sketches and wiring diagrams.

85511 SIGNAL OR TRACK SWITCH MAINTAINERS

Install, inspect, test, and repair electric gate crossings, signals, signal equipment, track switches, section lines, and intercommunication systems within a railroad system, following blueprints and work orders.

85514 RADIO MECHANICS

Test and repair stationary, mobile, and portable radio transmitting and receiving equipment and two-way radio communications systems, used in ship-to-shore communications and found in service and emergency vehicles, in accordance with diagrams and manufacturer's specifications. Examine equipment for damaged components and loose or broken connections and wires; replace defective components and parts. Involves use of hand tools and electrical measuring instruments. May repair intercommunication telephone systems. Occupation may require Federal Communications Commission Radiotelephone Operator's License, depending on the nature of repairs performed.

85599 ALL OTHER COMMUNICATIONS EQUIPMENT MECHANICS, INSTALLERS, AND REPAIRERS

All other communications equipment mechanics, installers, and repairers not classified separately above.

4. OTHER ELECTRICAL AND ELECTRONIC EQUIPMENT MECHANICS, INSTALLERS, AND REPAIRERS**85702 TELEPHONE AND CABLE TELEVISION LINE INSTALLERS AND REPAIRERS**

String and repair telephone and television cable and other equipment for transmitting messages or TV programming. Duties include locating and repairing defects in existing systems; placing, rearranging, and removing underground or aerial cables; installing supports, insulation, or guy wire systems; and other auxiliary tasks necessary to maintain lines and cables.

85705 DATA PROCESSING EQUIPMENT REPAIRERS

Repair, maintain, and install electronic computers (mainframes, minis, and micros), peripheral equipment, and word processing systems.

85708 ELECTRONIC HOME ENTERTAINMENT EQUIPMENT REPAIRERS

Adjust and repair radios, televisions, stereo systems, recorders, video systems, or other electronic home entertainment equipment.

85711 ELECTRIC HOME APPLIANCE AND POWER TOOL REPAIRERS

Repair, adjust, and install all types of electric household appliances, such as refrigerators, washing machines, dishwashers, vacuum cleaners, room air conditioners, and small appliances, including toasters, mixers, and food processors. Include repairers of electrical hand and bench tools, such as lathes, drills, saws, grinders, and polishers.

85714 ELECTRIC MOTOR, TRANSFORMER, AND RELATED REPAIRERS

Install, repair, and maintain electric motors, batteries, transformers, wiring, and switches, using hand and power tools, gauges, and test instruments.

- 85717 **ELECTRONICS REPAIRERS, COMMERCIAL AND INDUSTRIAL EQUIPMENT**
Repair electronic equipment such as industrial controls, telemetering and missile control systems, radar systems, transmitters, and antennae, using hand tools and testing instruments. Exclude repairers of data processing equipment and home entertainment equipment.
- 85721 **POWERHOUSE, SUBSTATION, AND RELAY ELECTRICIANS**
Inspect, test, repair, and maintain electrical equipment in generating stations or powerhouses; substation equipment, such as oil circuit breakers and transformers; and in-service relays, to prevent and remedy abnormal behavior of transmission and distribution lines and equipment.
- 85723 **ELECTRICAL POWER-LINE INSTALLERS AND REPAIRERS**
Install and repair cables or wires used in electrical power or distribution systems. Install insulators, erect wooden poles and light or heavy duty transmission towers. Include Cable Splicers and Trouble Shooters. Exclude repairers of transformers and substation equipment, and telephone and telegraph communications workers.
- 85726 **STATION INSTALLERS AND REPAIRERS, TELEPHONE**
Install and repair telephone station equipment, such as telephones, coin collectors, telephone booths, and switching-key equipment.
- 85728 **ELECTRICAL INSTALLERS AND REPAIRERS, TRANSPORTATION EQUIPMENT**
Install, adjust, and maintain electrical systems and wiring switches and fixtures on motor vehicles, trains, or aircraft.
- 85799 **ALL OTHER ELECTRICAL AND ELECTRONIC EQUIPMENT MECHANICS, INSTALLERS, AND REPAIRERS**
All other electrical and electronic equipment mechanics, installers, and repairers not classified separately above.

5. OTHER MECHANICS, INSTALLERS, AND REPAIRERS

- 85902 **HEATING, AIR CONDITIONING, AND REFRIGERATION MECHANICS AND INSTALLERS**
Install and repair heating, air conditioning, and refrigerating systems. Duties include installation and repair of oil burners, hot-air furnaces, heating stoves, and similar equipment in homes and commercial establishments, using hand and pipe threading tools. Includes the installation and repair of cooling and central air conditioning systems.

85905 PRECISION INSTRUMENT REPAIRERS

Install, test, repair, maintain, and adjust indicating, recording, telemetering, and controlling instruments used to measure and control variables such as pressure, flow, temperature, motion, force, and chemical composition. Include instrument repairers who repair, calibrate, and test instruments such as voltmeters, ammeters, and galvanometers.

85908 ELECTROMEDICAL AND BIOMEDICAL EQUIPMENT REPAIRERS

Test, adjust, and repair electromedical equipment using hand tools and meters.

85911 ELECTRIC METER INSTALLERS AND REPAIRERS

Install electric meters on customers' premises or on pole. Test meters and perform necessary repairs. Turn current on/off by connecting/disconnecting service drop.

85914 CAMERA AND PHOTOGRAPHIC EQUIPMENT REPAIRERS

Repair and adjust cameras and photographic equipment, including motion picture cameras and equipment, using specialized tools and testing devices.

85917 WATCHMAKERS

Repair, clean, and adjust mechanisms of instruments such as watches, time clocks, and timing switches, using hand tools and measuring instruments. Exclude workers who perform a specialized operation.

85921 MUSICAL INSTRUMENT REPAIRERS AND TUNERS

Repair percussion, stringed, and wind instruments. May specialize in tuning one type of instrument, such as a Piano Tuner. Exclude Electric Organ Repairers.

85923 LOCKSMITHS AND SAFE REPAIRERS

Repair and open locks; make keys; change locks and safe combinations; and install and repair safes.

85926 OFFICE MACHINE AND CASH REGISTER SERVICERS

Repair and service office machines, such as adding, accounting, calculating, duplicating, and typewriting machines. Include the repair of manual, electrical, and electronic office machines. Exclude the repair of computerized systems and word processing systems.

85928 MECHANICAL CONTROL AND VALVE INSTALLERS AND REPAIRERS

Install, repair, and maintain mechanical regulating and controlling devices, such as gas regulators, thermostats, safety and flow valves, and other mechanical governors.

85932 ELEVATOR INSTALLERS AND REPAIRERS

Assemble, install, repair, and maintain electric and hydraulic freight and passenger elevators, escalators, and dumbwaiters.

85935 RIGGERS

Set up or repair rigging for ships and shipyards, manufacturing plants, logging yards, construction projects, and for the entertainment industry. Select cables, ropes, pulleys, winches, blocks, and sheaves according to weight and size of load to be moved. Coordinate and direct other workers and the movement of equipment to accomplish the task.

85938 INSTALLERS AND REPAIRERS, MANUFACTURED BUILDINGS, MOBILE HOMES, AND TRAVEL TRAILERS

Install, repair, and maintain units and systems in mobile homes, prefabricated buildings, or travel trailers, using hand tools or power tools.

85944 GAS APPLIANCE REPAIRERS

Repair and install gas appliances and equipment, such as ovens, dryers, and hot water heaters.

85947 COIN AND VENDING MACHINE SERVICERS AND REPAIRERS

Install, service, adjust, and repair coin or vending machines placed in establishments on a concessional basis, using hand or power tools. Exclude repairers of electronic video games and other specialized electronic vending machines.

85951 BICYCLE REPAIRERS

Repair and service bicycles using hand tools.

85953 TIRE REPAIRERS AND CHANGERS

Repair and replace tires, tubes, treads, and related products on automobiles, buses, trucks, and other vehicles. Duties include mounting tires on wheels, balancing tires and wheels, and testing and repairing damaged tires and inner tubes.

85956 MENDERS, GARMENTS, LINENS, AND RELATED

Repair defects such as tears and holes in garments, linens, curtains, and draperies. Rebind cleaned blankets by hand or by operating a sewing machine.

85999 ALL OTHER MECHANICS, INSTALLERS, AND REPAIRERS

Include all mechanics, installers, and repairers not classified separately above.

D. CONSTRUCTION TRADES AND EXTRACTIVE OCCUPATIONS, EXCEPT MATERIAL MOVING**87000 CONSTRUCTION TRADES AND EXTRACTIVE WORKERS, EXCEPT MATERIAL MOVING**

Construct, alter, and maintain buildings, other structures, bridges, pipelines, and similar projects. The construction/maintenance work performed by these workers is found in many establishments, although the majority of these workers work for construction firms. Include extractive workers, such as Blasters, Oil Well Drillers, and Mining Operatives. Exclude helpers and laborers.

1. CARPENTRY AND RELATED WORKERS

87102 CARPENTERS

Construct, erect, install and repair structures, fixtures, and equipment of wood, plywood, and wallboard, using carpentry tools and woodworking machines.

87105 CEILING TILE INSTALLERS AND ACOUSTICAL CARPENTERS

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. Exclude carpet, wood, or hard tile installers.

87108 DRYWALL INSTALLERS

Apply plasterboard or other wallboard to ceilings and interior walls of buildings.

87111 TAPERS

Seal joints between plasterboard or other wallboard to prepare wall surface for painting or papering.

87114 LATHERS

Fasten wooden, metal, or rockboard lath to walls, ceilings, and partitions of buildings to provide supporting base for plaster, fire-proofing, or acoustical material.

87121 BRATTICE BUILDERS

Build doors or brattices (ventilation walls or partitions) in underground passageways to control the proper circulation of air through the passageways and to the working places.

2. ELECTRICAL AND RELATED WORKERS

87202 ELECTRICIANS

Install, maintain, and repair electrical wiring, equipment, and fixtures. Insure that work is in accordance with relevant codes. May read blueprints. Include Protective Signal Installers and Repairers and Street Light Servicers.

3. MASONRY AND RELATED WORKERS

87302 BRICKMASONS

Lay building materials, such as brick, structural tile, concrete, cinder, glass, gypsum, and terra cotta block (except stone), to construct or repair walls, partitions, arches, sewers, and other structures. Include Refractory Brickmasons.

87305 STONEMASONS

Build stone structures, such as piers, walls, and abutments. Lay walks, curbstones, or special types of masonry for vats, tanks, and floors.

87308 HARD TILE SETTERS

Apply hard tile to walls, floors, ceilings, and other areas following design specifications.

87311 CONCRETE AND TERRAZZO FINISHERS

Apply cement, sand, pigment, or marble chips to floors, stairways, and cabinet fixtures to finish and attain durable and decorative surfaces, according to specifications and drawings. Finish surfaces to remove imperfections from freshly poured concrete walls, roads, walkways, and ornamental stone facings of concrete structural products. Include Concrete Rubbers.

87314 REINFORCING METAL WORKERS

Position and secure metal bars in concrete forms to reinforce concrete. Determine number, size, shape, and location of reinforcing rods from blueprints, sketches, or oral instructions.

87317 PLASTERERS AND STUCCO MASONS

Apply coats of plaster onto interior or exterior walls, ceilings, or partitions of buildings to produce finished surface according to blueprints, architect's drawings, or oral instructions.

4. PAINTING AND RELATED WORKERS**87402 PAINTERS AND PAPERHANGERS, CONSTRUCTION AND MAINTENANCE**

Painters: Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May mix colors or oils to obtain desired color or consistency. Paperhangers: Cover interior walls and ceilings of rooms with decorative wallpaper or fabric, or attach advertising posters on surfaces such as walls and billboards. Duties include removing old materials from surface to be papered.

5. PLUMBING AND RELATED WORKERS**87502 PLUMBERS, PIPEFITTERS, AND STEAMFITTERS**

Assemble, install, alter, and repair pipe systems (metal, plastic, ceramic, composition, etc.) that carry water, steam, air, or other liquids or gases.

87505 PIPELAYING FITTERS

Align pipeline section in preparation of welding. Signal tractor driver for placement of pipeline sections in proper alignment. Insert steel spacer.

87508 PIPELAYERS

Lay glazed or unglazed clay, concrete, plastic, or cast-iron pipe for storm or sanitation sewers, drains, water mains, and oil or gas lines. Perform any combination of the following tasks: Grade trenches or culverts, position pipe, or seal joints.

87511 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.

6. FLOOR RELATED WORKERS, EXCEPT CARPENTERS

87602 CARPET INSTALLERS

Lay carpets or rugs in homes or buildings. Exclude workers who lay linoleum.

87605 FLOOR LAYERS, EXCEPT CARPET, WOOD, AND HARD TILES

Apply blocks, strips, or sheets of shock-absorbing, sound-deadening, or decorative coverings to floors and cabinets. Include soft tile setters. Exclude Acoustical Carpenters and installers of carpets, wood, or hard tile.

87608 FLOOR SANDING MACHINE OPERATORS

Scrape and sand wooden floors to smooth surfaces using floor scraper and floor sanding machine.

7. ROAD, RAIL, AND RELATED CONSTRUCTION AND MAINTENANCE WORKERS, EXCEPT MASONRY WORKERS

87702 AIR HAMMER OPERATORS

Use air hammer to: Break asphalt, concrete, stone, or other pavement; loosen earth, dig clay, or break rock, to trim bottom or sides of trenches or other excavations; drill holes in concrete; reduce size of large stones; or tamp earth in backfills.

87705 PILE-DRIVER OPERATORS

Operate pile drivers mounted on skids, barges, crawler treads, or locomotive cranes to drive pilings for foundations of structures, such as buildings, bridges, and piers.

87708 PAVING, SURFACING, AND TAMPING EQUIPMENT OPERATORS

Operate equipment used for applying concrete, asphalt, or other materials to road beds, parking lots, or airport runways and taxiways, or equipment used for tamping gravel, dirt, or other materials. Include Concrete and Asphalt Paving Machine Operators, Form Tampers, Tamping Machine Operators, and Stone Spreader Operators.

87711 HIGHWAY MAINTENANCE WORKERS

Maintain highways, municipal and rural roads, airport runways, and rights-of-way in safe condition. Duties include patching broken or eroded pavement, and erecting and repairing guard rails, highway markers, and snow fences using a posthole digger, shovel, axe, saw, hammer and nails, or power tools. May also clear brush or plant trees along rights-of-way.

87714 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. Include Ballast Cleaning Machine Operators and Road Bed Tamping Machine Operators.

8. OTHER CONSTRUCTION TRADES WORKERS

87802 INSULATION WORKERS

Cover and line structures with insulation using saws, knives, rasps, trowels, and other tools and implements. May also specialize in providing blown-in insulation.

87803 HAZARDOUS MATERIALS REMOVAL WORKERS

Remove, pack, transport, and/or dispose of hazardous materials, including asbestos, waste fuel, contaminated soil, etc. Specialized training and certification in hazardous materials handling and/or a confined entry permit are generally required.

[This occupation was added in 1996.]

87805 SHEET METAL DUCT INSTALLERS

Install prefabricated sheet metal ducts used for heating, air conditioning, or other purposes in buildings and similar structures.

87808 ROOFERS

Cover roofs of structures with slate, asphalt, aluminum, wood, and related materials using brushes, knives, punches, hammers, and other tools. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.

87811 GLAZIERS

Install glass in windows, skylights, store fronts, and display cases, or on surfaces such as building fronts, interior walls, ceilings, and tabletops. Exclude Glaziers who work primarily on production lines.

87814 STRUCTURAL METAL WORKERS

Raise, place, and unite girders, columns, and other structural steel members to form completed structures or structural frameworks. Include workers who erect metal storage tanks and assemble prefabricated metal buildings. Exclude reinforcing metal workers.

87817 FENCE ERECTORS

Erect and repair metal and wooden fences and fence gates around highways, industrial establishments, residences, or farms, using hand and power tools.

87899 ALL OTHER CONSTRUCTION TRADES WORKERS

All other construction trades workers not classified separately above.

9. EXTRACTIVE AND RELATED WORKERS- INCLUDING BLASTERS

87900 EXTRACTIVE AND RELATED WORKERS, INCLUDING BLASTERS

Drill wells; detonate explosives to loosen, remove, or displace earth, rock, or other materials; operate mining machines, other than general material-moving equipment such as trucks, shovels, and conveyors; and other related extraction workers. Include Earth Drillers, Rock Blasters, Roustabouts, Continuous Mining Machine Operators, Rotary Drill Operators, and Mine Cutting and Channeling Machine Operators. Exclude laborers and helpers.

87902 EARTH DRILLERS, EXCEPT OIL AND GAS

Operate a variety of drills to tap sub-surface water and salt deposits, to remove core samples during mineral exploration or soil testing, and to facilitate the use of explosives in mining or construction. Include Core, Well, and Foundation Drill Operators and Horizontal and Earth Boring Machine Operators. Exclude Oil Well Drillers.

87905 BLASTERS AND EXPLOSIVES WORKERS

Place explosives in holes or other spots and detonate the explosives to demolish structures or to loosen, remove, or displace earth, rock, or other materials. Include Tier-Detonator Blasters, Perforator Operators, and Seismograph Shooters.

87908 ROCK SPLITTERS, QUARRY

Separate blocks of rough dimension stone from quarry mass using jackhammer, wedges, and feathers.

87911 ROTARY DRILL OPERATORS, OIL AND GAS EXTRACTION

Set up or operate a variety of drills to remove petroleum products from the earth and to remove core samples for testing during oil and gas exploration. Include Core and Rotary Drillers and Well and Prospecting Drillers.

87914 DERRICK OPERATORS, OIL AND GAS EXTRACTION

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

87917 SERVICE UNIT OPERATORS

Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells. Include Fishing-Tool Technicians.

87921 ROUSTABOUTS

Perform a variety of assigned tasks in or around an oil field such as assembling or repairing equipment, digging drainage trenches, and loading/unloading trucks.

87923 ROOF BOLTERS

Operate self-propelled machine to install roof support bolts in underground mine.

87940 MINING MACHINE OPERATORS

Operate mining machines, such as self-propelled or truck-mounted drilling machines, continuous mining machines, channeling machines, and cutting machines to extract coal, metal and nonmetal ores, rock, stone, or sand from underground or surface excavation. Exclude Truck, Shovel, and Conveyor Operators.

87941 CONTINUOUS MINING MACHINE OPERATORS

Operate self-propelled mining machines that rip coal, metal and nonmetal ores, rock, stone, or sand from the face and load it onto conveyors or into shuttle cars in a continuous operation.

87943 MINE CUTTING AND CHANNELING MACHINE OPERATORS

Operate machines that cut or channel along the face or seams of coal mines, stone quarries, or other mining surfaces to facilitate blasting, separating, or removing minerals or materials from mines or from the earth's surface. Include Shale Planers.

87949 ALL OTHER MINING MACHINE OPERATORS

All other mining machine operators not classified separately above.

87989 ALL OTHER EXTRACTIVE WORKERS, EXCEPT HELPERS

All other extractive workers, except helpers, not classified separately above.

87999 ALL OTHER CONSTRUCTION AND EXTRACTIVE WORKERS, EXCEPT HELPERS

All other construction and extractive workers, except helpers, not classified separately above.

E. PRECISION PRODUCTION OCCUPATIONS**89000 PRECISION PRODUCTION WORKERS**

Perform work which requires a high degree of precision; usually an ability to interpret detailed specifications and instructions and to use independent judgment and knowledge gained through experience and training. Precision work may be accomplished either by hand-held tools or by using various types of machinery. Substantial training, either classroom or on the job, is generally required to reach the "journey" level. In most cases, training of six months to several years or more is required. Occupations in this category are ordered according to material: metal, wood, textile, printing, food, and a residual "All Other" category. Exclude precision assembling workers and report them in the Hand Working (including assemblers and fabricators) section found later in the form. Exclude Precision Inspectors and Testers and report them in the earlier category Precision Inspectors, Testers, and Graders.

1. PRECISION METAL WORKERS**89102 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 machinist's hand tools. Include Paper Die Maker and Die Sinker. Exclude Die Setters.

89105 PRECISION INSTRUMENT MAKERS

Fabricate, modify, or repair mechanical instruments or mechanical assemblies of electrical or electronic instruments, such as chronometric timing devices, thermostats, seismographs, and servomechanisms. Set up and operate machine tools to remodel electrical and electronic instruments used in electrical logging, sub-surface surveying, and other oil, gas, or borehole prospecting, testing, and servicing operations.

89108 MACHINISTS

Set up and operate variety of machine tools. Fit and assemble parts to make or repair machine tools and maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures. Study specifications, such as blueprints, sketch, or description of part to be replaced, and plan sequence of operations.

89111 TOOL GRINDERS, FILERS, SHARPENERS, AND OTHER PRECISION GRINDERS

Perform such operations as precision smoothing, sharpening, polishing, and grinding of metal objects by the wearing action of abrasive materials or machine files. Include Tool, Cylinder, and Card Grinders and Grinder Operators, Saw Filers, and Filer-Finishers.

89114 PATTERN AND MODEL MAKERS, METAL

Patternmakers, Metal: Lay out, machine, fit, and assemble castings and parts to metal foundry patterns, core boxes, and match plates using hand and machine tools. Analyze specifications according to knowledge of patternmaking methods. Include Plastic Patternmakers. Model Makers: Set up and operate machines such as model maker's lathe, milling and engraving machines, and jig borers to make working models of metal or plastic objects. Include Template Makers. Exclude Jewelry Pattern and Model Makers. Exclude workers who do not work primarily with metal and plastic but work with other material or a combination of materials.

89117 PRECISION LAY-OUT WORKERS, METAL

Lay out reference points and dimensions on metal stock or workpieces, such as sheets, plates, tubes, structural shapes, castings, or machine parts, for further processing, such as machining, fabricating, welding, and assembling.

89121 SHIPFITTERS

Lay out and fabricate metal structural parts, such as plates, bulkheads, and frames. Brace them in position within hull of ship for riveting or welding. May prepare molds and templates for fabrication of nonstandard parts.

89123 JEWELERS AND SILVERSMITHS

Jewelers: Fabricate, adjust, or repair jewelry. Silversmiths: Design, assemble, decorate, or repair silver articles. May specialize in one or more areas of the jewelry field, such as repairing, selling, or appraising. Exclude workers who perform a specialized operation such as fancy wire drawing.

89126 PRECISION HAND WORKERS, JEWELRY AND RELATED PRODUCTS

Perform such operations as precision casting and modeling of molds, casting metal in molds, and setting precious and semi-precious stones for jewelry, silverware, plateware, ornamental figurines, trophies, and plaques. May make gold or silver chains and cut designs or lines in jewelry. Workers in these categories usually use hand tools or small cutting machines. Include Pearl Restorers, Jewelry Bench Hands, and Solderers.

89128 PRECISION ETCHERS AND ENGRAVERS, HAND OR MACHINE

Engrave or etch flat or curved metal, wood, rubber, or other materials by hand or machine for printing, identification, or decorative purposes. Include Etchers and Engravers of both hard and soft metals or materials, and Jewelry and Seal Engravers. Exclude Photoengravers, Pantographers, and Glass Etchers and Engravers.

89132 SHEET METAL WORKERS

Fabricate, assemble, install, and repair sheet metal products and equipment, such as control boxes, drainpipes, and furnace casings. Work may involve any of the following: Set up and operate fabricating machines to cut, bend, and straighten sheet metal; shape metal over anvils, blocks, or forms using hammer; operate soldering and welding equipment to join sheet metal parts; inspect, assemble, and smooth seams and joints of burred surfaces.

89135 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.

89199 ALL OTHER PRECISION METAL WORKERS

All other precision metal workers not classified separately above.

2. PRECISION WOODWORKERS**89300 PRECISION WOODWORKERS**

Perform precision tasks primarily involving production work with wood and wood products. Precision-level wood work normally requires substantial training, an ability to interpret specifications, and to use independent judgment. Include woodworkers such as pattern and model makers, cabinetmakers, wood machinists, furniture finishers, and hand wood carvers.

89302 PATTERN AND MODEL MAKERS, WOOD

Patternmakers, Wood: Plan, lay out, and construct wooden unit or sectional patterns used in forming sand molds for castings, according to blueprint specifications. Work involves use of hand and power tools. Model Makers, Wood: Construct full-size and scale wooden precision models of products such as boats, automobiles, household appliances, aircraft, and machinery, using hand tools, measuring instruments, and woodworking machines. Include Wood Jig Builders and Loft Workers.

89305 PATTERN MARKERS, WOOD

Lay out outline of frames and furniture parts on wood stock to guide machine operators working from blueprints, job orders, or models.

89308 WOOD MACHINISTS

Set up and operate a variety of woodworking machines to surface, cut, and shape lumber, and to fabricate parts for wood products, such as door and window frames, furniture, and sashes, according to specifications. Exclude workers primarily concerned with one or a limited number of machine phases and report them according to their specialty.

89311 CABINETMAKERS AND BENCH CARPENTERS

Cut, shape, and assemble wooden articles, such as store fixtures, office equipment, cabinets, and high grade furniture. Set up and operate variety of machines, such as power saws, jointers, mortisers, tenoners, molders, and shapers, to cut and shape parts from wood stock. Exclude workers primarily concerned with one or a limited number of machine phases and report them according to their specialty.

89314 FURNITURE FINISHERS

Shape, finish, and refinish damaged, worn, or used furniture or new high-grade furniture to specified color or finish, utilizing knowledge of wood properties, finishes, and furniture style.

89399 ALL OTHER PRECISION WOODWORKERS

All other precision woodworkers not classified separately above.

3. PRECISION TEXTILE, APPAREL, AND FURNISHINGS WORKERS**89502 FABRIC AND APPAREL PATTERNMAKERS AND LAY-OUT WORKERS**

Draw and construct sets of precision master patterns or layouts. Mark and cut fabrics and apparel according to blueprints or specifications.

89505 CUSTOM TAILORS AND SEWERS

Design and make tailored garments, applying knowledge of garment design, construction, styling, and fabric. Alter, repair, or fit made-to-measure or ready-to-wear garments, sewing by hand or machine.

89508 UPHOLSTERERS

Make, repair, and replace upholstery for household furniture or transportation vehicles, using knowledge of fabrics and methods of upholstery. Include workers in both manufacturing and nonmanufacturing industries. Exclude workers who perform a specialized operation such as Sewing Machine Operators, Assemblers, and Hand Cutters and Trimmers.

89511 SHOE AND LEATHER WORKERS AND REPAIRERS, PRECISION

Construct, decorate, or repair precision leather products, such as luggage, shoes, and saddles, using machines and hand tools. Include workers who work with leather-like materials when process is similar.

89514 SPOTTERS, DRY-CLEANING

Identify stains in wool, synthetic, and silk garments and household fabrics and apply chemical solutions to remove stain. Determine spotting procedures on basis of type of fabric and nature of stain.

89517 PRESSERS, DELICATE FABRICS

Press dry-cleaned and wet-cleaned silk and synthetic fiber garments by hand or machine, applying knowledge of fabrics and heat to produce high quality finish. Finish pleated or fancy garments, normally by hand.

89521 PRECISION DYERS

Change or restore the color of articles, such as garments, drapes, and slipcovers, by means of dyes. Work requires knowledge of the composition of the textiles being dyed or restored; the chemical properties of bleaches and dyes; and their effects upon such textiles. Include Rug Dyers.

89599 ALL OTHER PRECISION TEXTILE, APPAREL, AND FURNISHINGS WORKERS

All other precision textile, apparel, and furnishings workers not classified separately above.

4. PRECISION PRINTING WORKERS**89702 HAND COMPOSITORS AND TYPESETTERS**

Set up and arrange type by hand. Assemble and lock setup of type, cuts, and headings. Pull proofs. Exclude Phototypesetters or other workers concerned with typesetting by electronic or word processing methods.

[In 1989, this occupational title replaced PRECISION COMPOSITORS, TYPESETTERS, AND ARRANGERS.]

89705 JOB PRINTERS

Set type according to copy. Operate cylinder or automatic platen press to print job order. Read proof for errors and clarity of impression, and correct imperfections. Job printers are often found in small establishments where work combines several job skills, such as typesetting, printing, reading, and selecting of materials to reproduce copy.

89706 PASTE-UP WORKERS

Arrange and mount typeset material and illustrations into paste-up for printing reproduction, based on artist's or editor's layout.

[This occupation was added in 1989.]

89707 ELECTRONIC PAGINATION SYSTEM OPERATORS

Using a computer screen, call up type and art elements from computer memory and position them into a completed page, using knowledge of type styles and size and composition patterns. The composited page is then transmitted for production into film or directly into plates.

[This occupation was added in 1989.]

89710 PRECISION LITHOGRAPHY AND PHOTOENGRAVING WORKERS

Photograph, produce, modify, assemble, and transfer detailed precision images or designs to metal plates for use in printing. Include Platemakers, Retouchers, and Strippers. Exclude workers who primarily lay out copy.

89712 PHOTOENGRAVERS

Photograph copy, develop negatives, and prepare photosensitized metal plates for use in letterpress and gravure printing. Include photoengraving specialists such as Printers, Etchers, Finishers, and Proofers.

[This occupation was added in 1989 as a disaggregation of PRECISION LITHOGRAPHY AND PHOTOENGRAVING WORKERS.]

89713 CAMERA OPERATORS

Operate process, line, halftone, or color separation cameras and related darkroom equipment to photograph and develop negatives of material to be printed.

[This occupation was added in 1989 as a disaggregation of PRECISION LITHOGRAPHY AND PHOTOENGRAVING WORKERS.]

89715 SCANNER OPERATORS

Operate electronic or computerized scanning equipment to produce and screen film separations of photographs or art for use in producing lithographic printing plates. Evaluate and correct for deficiencies in the film.

[This occupation was added in 1989 as a disaggregation of PRECISION LITHOGRAPHY AND PHOTOENGRAVING WORKERS.]

89717 STRIPPERS

Cut and arrange film into flats (layout sheets resembling a film negative of text in its final form) which are used to make plates. Prepare separate flat for each color.

[This occupation was added in 1989 as a disaggregation of PRECISION LITHOGRAPHY AND PHOTOENGRAVING WORKERS.]

89718 PLATEMAKERS

Produce printing plates by exposing sensitized metal sheets to special light through a photographic negative. May operate machines that process plates automatically.

[This occupation was added in 1989 as a disaggregation of PRECISION LITHOGRAPHY AND PHOTOENGRAVING WORKERS.]

89719 ALL OTHER LITHOGRAPHY AND PHOTOENGRAVING WORKERS

All other lithography and photoengraving workers not classified separately above.

[This occupation was added in 1989 as a disaggregation of PRECISION LITHOGRAPHY AND PHOTOENGRAVING WORKERS.]

89721 BOOKBINDERS

Cut, saw, and glue component parts to bind new books. Perform other finishing operations, such as grooving, decorating, and lettering. Primarily use hand tools but may also employ other precision processing methods or new technology. This occupation normally requires an apprenticeship program (usually 2 years or more) or equivalent training and more extensive experience than that of bindery workers. Exclude Book Repairers.

[This occupation was recoded from 89711 in 1989.]

89799 ALL OTHER PRECISION PRINTING WORKERS

All other precision printing workers not classified separately above.

5. PRECISION FOOD WORKERS**89802 SLAUGHTERERS AND BUTCHERS**

Work in a slaughtering or meat packing establishment to prepare meat for sale by performing precision tasks such as stunning, skinning and trimming; cutting standard cuts of meat for marketing; cleaning and salting hides; making sausage; preparing meats for salting; and wrapping meats.

89805 BAKERS, MANUFACTURING

Mix and bake ingredients according to recipes to produce breads, pastries, and other baked goods. Goods are produced in large quantities for sale through establishments such as grocery stores. Generally, high volume production equipment is used.

89808 FOOD BATCHMAKERS

Set up and operate equipment that mixes, blends, or cooks ingredients used in the manufacturing of food products, according to formulas or recipes. May modify or reformulate recipes to produce products of specific flavor, texture, and color. This occupation requires at least 1 year (and often more) of training or experience. Include Candy Makers, Almond Paste Mixers, Cheese Makers, Flavorings Compounders, and Honey Graders and Blenders.

89899 ALL OTHER PRECISION FOOD AND TOBACCO WORKERS

All other precision food and tobacco workers not classified separately above.

6. OTHER PRECISION WORKERS

89902 PRECISION FOUNDRY MOLD AND COREMAKERS

Make and form wax or sand cores and molds used in the production of metal castings in foundries. Work involves using hand and power tools and applying knowledge of variables such as metal characteristics, molding sand, contour of patterns, reinforcing, and pouring procedures.

89905 PRECISION MOLDERS, SHAPERS, CASTERS, AND CARVERS, EXCEPT JEWELRY AND FOUNDRY

Mold, shape, cast, or carve products consisting of clay, glass, plaster, concrete, and stone, or combinations of materials into semi-finished or finished products.

89908 PRECISION PATTERNMAKERS, MODEL MAKERS, LAY-OUT WORKERS, AND CUTTERS

Construct patterns and models for use in forming products composed of single materials (except metal, plastic, wood, or textiles) or a combination of materials. Exclude workers who work with metal, plastic, wood, or textiles only.

89911 PRECISION DETAIL DESIGN DECORATORS AND PAINTERS

Design or decorate articles such as jewelry, furniture, glassware, pottery, or toys with paints, lacquers, enamels, shellac, or gilt. Types of processes include painting, carving, printing, drawing, artistic lettering, decorative screen making, advertising layout, and detail design of forms. Include Screen or Stencil Printers and Setters, Layout Formers, Gilders, Luster Applicators, and Tile Decorators. Exclude professional Artists and Designers and workers concerned with developing, coloring, and retouching photographs.

89914 PRECISION PHOTOGRAPHIC PROCESS WORKERS

Perform precision work involved in photographic processing, such as retouching photographic negatives and prints to stress specific features or identifying characteristics of subjects. Restore damaged and faded photographs. Color or shade drawings to create photographic likenesses using an airbrush. May also color photographs using oil colors, to produce natural, lifelike appearances according to specifications.

89917 PRECISION OPTICAL GOODS WORKERS

Cut, grind, and polish eyeglasses, contact lenses, or other precision optical elements according to prescription or other specifications. Assemble and mount lenses into frames and process other optical elements according to specifications. Work usually involves the use of precision machines and instruments. Include Precision Lens Polishers or Grinders, Centerer-Edgers, and Lens Mounters.

89921 PRECISION DENTAL LABORATORY TECHNICIANS

Construct and repair full or partial dentures or dental appliances or apparatus, following prescriptions or specifications of Dentists or Orthodontists. May also provide analytical and diagnostic services. Include Dental Ceramists, Crown and Bridge Technicians, and Orthodontic Technicians. Exclude Assistants, Bite-Block Makers, Opaquers, and Denture and Coiler Packers.

89923 MEDICAL APPLIANCE MAKERS

Construct, fit, maintain, and repair medical supportive devices, such as braces, artificial limbs, and arch supports, and other surgical and medical appliances, following the prescriptions and specifications of Orthotists, Prosthetists, or Podiatrists. May instruct patients in the use of the device.

89926 GEM AND DIAMOND WORKERS

Select, split, saw, cut, shape, polish, or drill gems and diamonds used in jewelry or for tools and industrial purposes. Work involves using measuring instruments, machines, or hand tools. Include Diamond Die Polishers and Gem Cutters.

89999 ALL OTHER PRECISION WORKERS

All other precision workers not classified separately above.

F. MACHINE SETTERS, SET-UP OPERATORS, OPERATORS, AND TENDERS**91000 MACHINE SETTERS, SET-UP OPERATORS, OPERATORS, AND TENDERS**

Set up, operate, or tend equipment or machinery, usually large production machinery. Workers who set up or set up and operate machines are grouped separately from workers who operate or tend machines..... Occupations in this section are organized according to the material being processed and are ordered as follows: metal & plastic (working, fabricating, and processing); wood, printing, and related; textile; and a residual "All Other" category. Occupations that do not primarily involve metal, plastic, and woodworking machines, printing and related machines, or textile machines should be reported in the residual category..... Exclude: 1) Transportation and Material moving occupations; 2) Hand working occupations - workers using hand or hand-held power tools; and 3) Plant and System Operators. The appropriate groups for these workers follow this section.

1. MACHINE TOOL CUTTING SETTERS, OPERATORS, AND RELATED WORKERS- METAL AND PLASTIC

91102 SAWING MACHINE TOOL SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC

Set up or set up and operate metal or plastic sawing machines to cut straight, curved, irregular, or internal patterns in metal or plastic stock or to trim edges of metal or plastic objects. Involves the use of such machines as band saws, circular saws, friction saws, hacksawing machines, and jigsaws.

91105 LATHE AND TURNING MACHINE TOOL SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC

Set up or set up and operate plastic or metal lathe and turning machines to turn, bore, thread, form, or face plastic or metal materials, such as wire, rod, or bar stock, according to specifications.

91108 DRILLING AND BORING MACHINE TOOL SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC

Set up or set up and operate drilling machines to drill, bore, ream, mill, and countersink metal or plastic workpieces according to specifications.

91111 MILLING AND PLANING MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC

Set up or set up and operate milling or planing machines to mill, plane, shape, groove, or profile metal or plastic workpieces according to specifications.

91114 GRINDING, LAPPING, AND BUFFING MACHINE TOOL SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC

Set up or set up and operate grinding and related tools that remove excess material or burrs from internal and external surfaces, sharpen edges or corners, or buff, hone, and polish metal or plastic workpieces according to specifications.

91117 MACHINE TOOL CUTTING OPERATORS AND TENDERS, METAL AND PLASTIC

Operate or tend one type of cutting machine tool which has previously been set up. Exclude workers who operate or tend more than one type of cutting machine. Types of cutting machine tools includes: Sawing Machines, Grinding Machines Lathe and Turning Machines, Buffing and Polishing Machines, Drilling and Boring Machines, Lapping and Honing Machines, and Milling and Planing Machines.

2. MACHINE FORMING SETTERS, OPERATORS, AND RELATED WORKERS- METAL AND PLASTIC

91302 PUNCHING MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC

Set up or set up and operate machines to punch, crimp, cut blanks, or notch metal or plastic workpieces between preset dies, according to specifications.

- 91305 **PRESS AND PRESS-BRAKE MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC**
Set up or set up and operate power-press machines or power-brake machines to bend, form, stretch, notch, punch, or straighten metal or plastic plate and structural shapes, as specified by work order, blueprints, drawing, templates, or layout.
- 91308 **SHEAR AND SLITTER MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC**
Set up or set up and operate power-shear or slitting machines to cut metal or plastic material, such as plates, sheets, slabs, billets or bars, to specified dimensions and angles.
- 91311 **EXTRUDING AND DRAWING MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC**
Set up or set up and operate machines to extrude or draw thermoplastic or metal materials, forming such products as tubes, rods, hoses, or wire; or to shape hot billets into products, such as bars and structural shapes.
- 91314 **ROLLING MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC**
Set up or set up and operate machines to roll steel or plastic material, such as strips, bars, and flats, to form bends, beads, knurls, rolls, or plate or to flatten, temper, and reduce gauge of material. Work involves using measuring instruments and following rolling orders or blueprints.
- 91317 **FORGING MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC**
Set up or set up and operate forging machines, such as a forging press, coining press, drop hammer, forging roll, or upsetter, to taper, shape, or form metal or plastic parts, following work order or blueprint specifications.
- 91321 **MACHINE FORMING OPERATORS AND TENDERS, METAL AND PLASTIC**
Operate or tend one type of forming machine which has previously been set up. Exclude workers who operate more than one type of forming machine. Types of forming machines includes: Punching Machines, Rolling Machines, Shear and Slitter Machines, Press and Press Brake Machines, Extruding and Drawing Machines, and Forging Machines.
- 3. NUMERICAL AND COMBINATION MACHINE TOOL SETTERS, OPERATORS, AND RELATED WORKERS- METAL AND PLASTIC**
- 91502 **NUMERICAL CONTROL MACHINE TOOL OPERATORS AND TENDERS, METAL AND PLASTIC**
Set up and operate computer-numerically controlled machine tools or robots to perform one or more machine functions on metal or plastic workpieces.

91505 COMBINATION MACHINE TOOL SETTERS AND SET-UP OPERATORS,
METAL AND PLASTIC

Set up or set up and operate more than one type of cutting or fabricating machine tool or robot. Exclude workers who set up or set up and operate only one type of metal or plastic working machine or robot.

91508 COMBINATION MACHINE TOOL OPERATORS AND TENDERS, METAL AND
PLASTIC

Operate or tend more than one type of cutting or fabricating machine tool or robot that has been previously set up. Exclude workers who operate or tend only one type of cutting or fabricating machine or robot.

**4. METAL FABRICATING AND RELATED MACHINE SETTERS, OPERATORS, AND
RELATED WORKERS**

91702 WELDING MACHINE SETTERS AND SET-UP OPERATORS

Set up or set up and operate welding machines or robots that join or bond together components to fabricate metal products or assemblies, according to specifications and blueprints.

91705 WELDING MACHINE OPERATORS AND TENDERS

Operate or tend welding machines or robots that join or bond together components to fabricate metal products and assemblies, according to specifications and blueprints.

91708 SOLDERING AND BRAZING MACHINE SETTERS AND SET-UP OPERATORS

Set up or set up and operate soldering or brazing machines to bronze, solder, heat treat, or spot weld fabricated metal products or components as specified by work orders, blueprints, and layout specifications.

91711 SOLDERING AND BRAZING MACHINE OPERATORS AND TENDERS

Operate or tend soldering and brazing machines that braze, solder, or spot weld fabricated metal products or components as specified by work orders, blueprints, and layout specifications.

91714 METAL FABRICATORS, STRUCTURAL METAL PRODUCTS

Fabricate and assemble structural metal products, such as frameworks or shells for machinery, ovens, tanks, and stacks, and metal parts for buildings and bridges, according to job order or blueprints.

**5. METAL AND PLASTIC PROCESSING MACHINE SETTERS, OPERATORS, AND
RELATED WORKERS**

91902 PLASTIC MOLDING AND CASTING MACHINE SETTERS AND SET-UP
OPERATORS

Set up or set up and operate plastic molding machines, such as compression or injection molding machines, to mold, form, or cast thermoplastic materials to specified shape.

- 91905 **PLASTIC MOLDING AND CASTING MACHINE OPERATORS AND TENDERS**
Operate or tend plastic molding machines, such as compression or injection molding machines, to mold, form, or cast thermoplastic materials to specified shape.
- 91908 **METAL MOLDING, COREMAKING, AND CASTING MACHINE SETTERS AND SET-UP OPERATORS**
Set up or set up and operate metal casting, molding, and coremaking machines to mold or cast metal parts and products, such as tubes, rods, automobile trim, carburetor housings, and motor parts. Machines include: Die casting and continuous casting machines; roll-over, squeeze, and shell molding machines; centrifugal casting machines; vacuum casting machines; turnover draw-type coremaking machines; and conveyor-screw coremaking machines.
- 91911 **METAL MOLDING, COREMAKING, AND CASTING MACHINE OPERATORS AND TENDERS**
Operate or tend metal molding, casting, or coremaking machines to mold or cast metal products, such as pipes, brake drums, and rods, and metal parts, such as automobile trim, carburetor housings, and motor parts. Machines include: Die casting and continuous casting machines; roll-over, squeeze, and shell molding machines; centrifugal casting machines; vacuum casting machines; turnover draw-type coremaking machines; and conveyor-screw coremaking machines.
- 91914 **FOUNDRY MOLD ASSEMBLY AND SHAKE-OUT WORKERS**
Prepare molds for pouring. Duties include: Cleaning and assembling foundry molds, and tending machine that bonds cope and drag together to form completed shell mold.
- 91917 **ELECTROLYTIC PLATING AND COATING MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC**
Set up or set up and operate electrolytic plating or coating machines, such as continuous multistrand electrogalvanizing machines, to coat metal or plastic products electrolytically with chromium, copper, cadmium, or other metal to provide protective or decorative surfaces or to build up worn surfaces.
- 91921 **ELECTROLYTIC PLATING AND COATING MACHINE OPERATORS AND TENDERS, METAL AND PLASTIC**
Operate or tend electrolytic plating or coating machines, such as zinc-plating machines and anodizing machines, to coat metal or plastic products electrolytically with chromium, zinc, copper, cadmium, or other metal to provide protective or decorative surfaces or to build up worn surfaces.
- 91923 **NONELECTROLYTIC PLATING AND COATING MACHINE SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC**
Set up or set up and operate nonelectrolytic plating or coating machines, such as hot-dip lines and metal-spraying machines, to coat metal or plastic products or parts with metal.

91926 NONELECTROLYTIC PLATING AND COATING MACHINE OPERATORS AND TENDERS, METAL AND PLASTIC

Operate or tend nonelectrolytic plating or coating machines, such as metal-spraying machines and vacuum metalizing machines, to coat metal or plastic products or parts with metal.

91928 HEATING EQUIPMENT SETTERS AND SET-UP OPERATORS, METAL AND PLASTIC

Set up or set up and operate heating equipment, such as heat-treating furnaces, flame-hardening machines, and induction machines, that anneal or heat-treat metal objects.

91932 HEAT TREATING, ANNEALING, AND TEMPERING MACHINE OPERATORS AND TENDERS, METAL AND PLASTIC

Operate or tend machines, such as furnaces, baths, flame-hardening machines, and electronic induction machines, to harden, anneal, and heat-treat metal products or metal parts.

91935 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. Exclude Heat-Treating and Related Furnace Operators.

91938 HEATERS, METAL AND PLASTIC

Operate or tend heating equipment, such as soaking pits, reheating furnaces, and heating and vacuum equipment, to heat metal sheets, blooms, billets, bars, plate, and rods to a specified temperature for rolling or processing, or to heat and cure preformed plastic parts.

6. OTHER METAL AND PLASTIC MACHINE SETTERS, OPERATORS, AND RELATED WORKERS

92197 ALL OTHER METAL AND PLASTIC (CUTTING, FORMING, FABRICATING, OR PROCESSING) MACHINE SETTERS AND SET-UP OPERATORS

All other metal and plastic machine setters and set-up operators not classified separately above.

92198 ALL OTHER METAL AND PLASTIC (CUTTING, FORMING, FABRICATING, OR PROCESSING) MACHINE OPERATORS AND TENDERS

All other metal and plastic machine operators and tenders not classified separately above.

7. WOODWORKING MACHINE SETTERS, OPERATORS, AND RELATED WORKERS

92302 SAWING MACHINE SETTERS AND SET-UP OPERATORS

Set up or set up and operate wood-sawing machines. Examine blueprints, drawings, work orders, and patterns to determine size and shape of items to be sawed, sawing machines to set up, and sequence of sawing operations.

92305 HEAD SAWYERS

Operate head saws and feed carriages to saw logs into rough cants or boards from heading bolts.

92308 SAWING MACHINE OPERATORS AND TENDERS

Operate or tend wood-sawing machines, such as circular saws, band saws, multiple blade sawing machines, scroll saws, rip saws, equalizer saws, power saws, and crozer machines. Duties include: sawing logs to specifications; cutting lumber to specified dimensions; sawing curved or irregular designs; trimming edges and removing defects from lumber; or cutting grooves, bevel, and miter according to specifications or work orders.

92311 WOODWORKING MACHINE SETTERS AND SET-UP OPERATORS, EXCEPT SAWING

Set up or set up and operate woodworking machines, such as lathes, drill presses, sanders, shapers, and planing machines, to perform woodworking operations. Exclude Sawing Machine Setters and Set-Up Operators.

92314 WOODWORKING MACHINE OPERATORS AND TENDERS, EXCEPT SAWING

Operate or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood-nailing machines to perform woodworking operations. Exclude Sawyers.

8. PRINTING, BINDING, AND RELATED WORKERS

92510 PRINTING PRESS MACHINE SETTERS AND SET-UP OPERATORS

Set up or set up and operate various types of printing machines, such as offset lithographic presses, letter or letterset presses, flexographic presses, or gravure presses, to produce printed material such as books, manuals, or pamphlets.

92512 OFFSET LITHOGRAPHIC PRESS SETTERS AND SET-UP OPERATORS

Set up or set up and operate offset printing press, either sheet or web fed, to print single and multicolor copy from lithographic plates. Examine job order to determine press operating time, quantity to be printed, and stock specifications.

92515 LETTERPRESS SETTERS AND SET-UP OPERATORS

Set up or set up and operate direct relief letterpresses, either sheet or roll (web) fed, to produce single or multicolor printed material, such as newspapers, books, and periodicals.

- 92519 **ALL OTHER PRINTING PRESS SETTERS AND SET-UP OPERATORS**
All other printing press setters and set-up operators not classified separately above.
- 92522 **SPECIALTY MATERIALS PRINTING MACHINE SETTERS AND SET-UP OPERATORS**
Set up or set up and operate machines for printing on wallpaper, plastic, cloth, fiberglass, cardboard, or similar materials. Exclude printers using screen printing techniques.
- 92524 **SCREEN PRINTING MACHINE SETTERS AND SET-UP OPERATORS**
Set up or set up and operate screen printing machines to print designs onto articles and materials, such as glass or plasticware, cloth, and paper.
- 92525 **BINDERY MACHINE SETTERS AND SET-UP OPERATORS**
Set up or set up and operate machines that perform some or all of the following functions in order to produce books, magazines, pamphlets, catalogs, and other printed materials: Gathering, folding, cutting, stitching, rounding and backing, supering, casing-in, lining, pressing, and trimming.
- 92529 **ALL OTHER PRINTING RELATED MACHINE SETTERS AND SET-UP OPERATORS**
All other printing related machine setters and set-up operators not classified separately above.
- 92541 **TYPESETTING AND COMPOSING MACHINE OPERATORS AND TENDERS**
Operate or tend typesetting and composing equipment, such as phototypesetters, linotype or monotype keyboard machines, photocomposers, linocasters, and photoletterers. Exclude Data Entry Keyers of computerized systems.
- 92543 **PRINTING PRESS MACHINE OPERATORS AND TENDERS**
Operate or tend various types of printing machines, such as offset lithographic presses, letter or letterset presses, flexographic or gravure presses, to produce print on paper or other materials such as plastic, cloth, or rubber.
- 92545 **PHOTOENGRAVING AND LITHOGRAPHING MACHINE OPERATORS AND TENDERS**
Operate or tend photoengraving and lithographing equipment, such as plate graining, pantograph, roll varnishing, and routing machines.
- 92546 **BINDERY MACHINE OPERATORS AND TENDERS**
Operate or tend binding machines that round, back, case, line stitch, press, fold, trim, or perform other binding operations on books and related articles. Exclude Hand Bindery Workers and Machine Feeders and Offbearers.

92549 ALL OTHER PRINTING, BINDING, AND RELATED MACHINE OPERATORS AND TENDERS

All other printing, binding, and related machine operators and tenders not classified separately above.

9. TEXTILE AND RELATED SETTERS, OPERATORS, AND RELATED WORKERS

92702 TEXTILE MACHINE SETTERS AND SET-UP OPERATORS

Set up or set up and operate textile machines that perform textile processing and manufacturing operations, such as winding, twisting, knitting, weaving, bonding, and stretching.

92705 TEXTILE MACHINE OPERATORS AND TENDERS, WINDING, TWISTING, KNITTING, WEAVING, AND CUTTING

Operate or tend textile machines that perform textile processing and manufacturing operations, such as winding, twisting, knitting, weaving, and cutting, using knowledge of machine functions. Exclude Textile Sewing Machine Operators and Tenders.

92708 EXTRUDING AND FORMING MACHINE OPERATORS AND TENDERS, SYNTHETIC OR GLASS FIBERS

Operate or tend machines that extrude and form continuous filaments from synthetic materials, such as liquid polymer, rayon, and fiberglass, preparatory to further processing.

92711 TEXTILE DRAW-OUT MACHINE OPERATORS AND TENDERS

Operate or tend machines, such as slubber machines and drawing frames, that draw out and combine sliver, such as wool, hemp, synthetic, and blended sliver, preparatory to further processing.

92714 TEXTILE BLEACHING AND DYEING MACHINE OPERATORS AND TENDERS

Operate or tend machines, such as padding machines, treating tanks, dye jigs, and vats, to bleach, shrink, wash, dye, and finish textiles, such as cloth, yarn, greige cloth, and fiberglass sliver, preparatory to further processing.

92717 SEWING MACHINE OPERATORS, GARMENT

Operate or tend sewing machines to perform garment sewing operations, such as joining, reinforcing, or decorating garments or garment parts. Include sewing machine operators and tenders who perform specialized or automatic sewing machine functions, such as buttonhole making or tacking.

92721 SEWING MACHINE OPERATORS, NONGARMENT

Operate or tend sewing machines to join together, reinforce, decorate, or perform related sewing operations in the manufacture of nongarment products, such as upholstery, draperies, linens, carpets, and mattresses.

92723 SHOE SEWING MACHINE OPERATORS AND TENDERS

Operate or tend single, double, or multiple-needle stitching machine to join or decorate shoe parts, to reinforce shoe parts, or to attach buckles.

92726 LAUNDRY AND DRY-CLEANING MACHINE OPERATORS AND TENDERS, EXCEPT PRESSING

Operate or tend washing or dry-cleaning machines to wash or dry-clean commercial, industrial, or household articles, such as cloth garments, suede, leather, furs, blankets, draperies, fine linens, rugs, and carpets.

92728 PRESSING MACHINE OPERATORS AND TENDERS, TEXTILE, GARMENT, AND RELATED MATERIALS

Operate or tend pressing machines, such as hot-head pressing, steam pressing, automatic pressing, ironing, plunger pressing, and hydraulic pressing machines, to press and shape articles such as leather, fur, and cloth garments, drapes, slipcovers, handkerchiefs, and millinery. Exclude Delicate Fabric (Precision) Pressers.

10. OTHER MACHINE SETTERS, SET-UP OPERATORS, OPERATORS, AND TENDERS- EXCEPT METAL AND PLASTIC**92902 ELECTRONIC SEMICONDUCTOR PROCESSORS**

Process materials used in 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; clean, polish, and load wafers into series of special purpose furnaces, chemical baths, and equipment used to form circuitry and change conductive properties. May scribe or separate wafer into dice.

92905 MOTION PICTURE PROJECTIONISTS

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

92908 PHOTOGRAPHIC PROCESSING MACHINE OPERATORS AND TENDERS

Operate or tend photographic processing machines, such as motion picture film printing machines, photographic printing machines, film developing machines, and mounting presses, according to job specifications.

92911 TIRE BUILDING MACHINE OPERATORS

Operate machines such as collapsible drum devices to build pneumatic tires from rubber components, such as beads, ply stock, tread, and sidewalls.

92914 PAPER GOODS MACHINE SETTERS AND SET-UP OPERATORS

Set up or set up and operate 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, such as toilet tissue, towels, napkins, bags, envelopes, tubing, cartons, wax rolls, and containers.

- 92917 COOKING MACHINE OPERATORS AND TENDERS, FOOD AND TOBACCO**
Operate or tend cooking equipment, such as steam cooking vats, deep fry cookers, pressure cookers, kettles, and boilers, to prepare food products, such as meats, sugar, cheese, and grain. Exclude Food Roasting, Baking, and Drying Machine Operators and Tenders.
- 92921 ROASTING, BAKING, AND DRYING MACHINE OPERATORS AND TENDERS, FOOD AND TOBACCO**
Operate or tend roasting, baking, or drying equipment to: Reduce moisture content of food or tobacco products, such as tobacco, cocoa and coffee beans, macaroni, and grain; roast grain, nuts, or coffee beans; bake bread or other bakery products; or process food preparatory to canning. These machines include hearth ovens, kiln driers, roasters, char kilns, steam ovens, and vacuum drying equipment.
- 92923 FURNACE, KILN, OVEN, DRIER, OR KETTLE OPERATORS AND TENDERS**
Operate or tend heating equipment other than basic metal or plastic processing equipment. Oven Operators or Tenders: Bake fiberglass or painted products, fuse glass or enamel to metal products, carbonize coal, or cure rubber or other products. Furnace Operators or Tenders: Anneal glass, roast sulfur, convert chemicals, or process petroleum. Kettle Operators and Tenders: Boil soap, or melt antimony or asphalt materials. Drier Operators and Tenders: Remove moisture from paper, chemicals, ore, clay products, or slurry. Kiln Operators and Tenders: Heat minerals, dry lumber, fire greenware, anneal glassware, or bake clay products.
- 92926 BOILER OPERATORS AND TENDERS, LOW PRESSURE**
Operate or tend low pressure stationary steam boilers and auxiliary steam equipment, such as pumps, compressors and air conditioning equipment, to supply steam heat for office buildings, apartment houses, or industrial establishments; to maintain steam at specified pressure aboard marine vessels; or to generate and supply compressed air for operation of pneumatic tools, hoists, and air lances.
- 92928 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, such as ice cream, meat, blood plasma, and chemicals, preparatory to storage, shipment, or further processing.
- 92932 DAIRY PROCESSING EQUIPMENT OPERATORS, INCLUDING SETTERS**
Set up, operate, or tend continuous flow or vat-type equipment to process milk, cream, or other dairy products, following specified methods and formulas.
- 92935 CHEMICAL EQUIPMENT CONTROLLERS AND OPERATORS**
Control or operate equipment to control chemical changes or reactions in the processing of industrial or consumer products. Exclude operators who control equipment centrally controlled through panel boards.

92938 CHEMICAL EQUIPMENT TENDERS

Tend equipment in which a chemical change or reaction takes place in the processing of industrial or consumer products. Typical equipment used are: Devulcanizers, batch stills, fermenting tanks, steam-jacketed kettles, and reactor vessels.

92941 CUTTING AND SLICING MACHINE SETTERS AND SET-UP OPERATORS

Set up or set up and operate machines that cut or slice materials, such as glass, stone, cork, rubber, crepe, wallboard, and fibrous insulating board, to specified dimensions for further processing. Exclude Wood Sawyers, Metal or Plastic Sawyers, Shear or Slitter Operators, and Textile Setters and Set-up Operators.

92944 CUTTING AND SLICING MACHINE OPERATORS AND TENDERS

Operate or tend machines to cut or slice any of a wide variety of products or materials, such as tobacco, food, paper, roofing slate, glass, stone, rubber, cork, and insulating material. Exclude Metal, Wood, and Plastic Sawing Machine Operators and Tenders, and Textile Cutting Machine Operators and Tenders.

92947 PAINTERS, TRANSPORTATION EQUIPMENT

Operate or tend painting machines to paint surfaces of transportation equipment, such as automobiles, buses, trucks, boats, and airplanes.

92951 COATING, PAINTING, AND SPRAYING MACHINE SETTERS AND SET-UP OPERATORS

Set up or set up and operate machines to coat or paint any of a wide variety of products, such as food products, glassware, and cloth, ceramic, metal, plastic, paper, and wood products, with lacquer, silver and copper solution, rubber, paint, varnish, glaze, enamel, oil, or rust-proofing materials. Exclude setters and set-up operators who coat or plate metal or plastic with metal using electrolytic or nonelectrolytic processes.

92953 COATING, PAINTING, AND SPRAYING MACHINE OPERATORS AND TENDERS

Coating Machine Operators or Tenders: Operate or tend machines to coat any of a wide variety of items: Coating food products with sugar, chocolate, or butter; coat paper and paper products with chemical solutions, wax, or glazes; or coat fabric with rubber or plastic. Painting and Spraying Machine Operators and Tenders: Operate or tend machines to spray or paint decorative, protective, or other coating or finish, such as adhesive, lacquer, paint, stain, latex, preservative, oil, or other solutions. May apply coating or finish to any of a wide variety of items or materials, such as wood and wood products, ceramics, and glass. Include workers who apply coating or finish to materials preparatory to further processing or to consumer use.

- 92956 **CEMENTING AND GLUING MACHINE OPERATORS AND TENDERS**
Operate or tend cementing and gluing machines to join together items to form a completed product or to form an article for further processing. Processes include: Joining veneer sheets into plywood; gluing paper to glass wool, cardboard or paper; joining rubber and rubberized fabric parts, plastic, simulated leather, and other materials.
- 92958 **CLEANING, WASHING, AND PICKLING EQUIPMENT OPERATORS AND TENDERS**
Operate or tend machines to wash or clean items, such as barrels or kegs, glass products, tin plate surfaces, dried fruit, pulp, animal stock, coal, manufactured articles, plastic, or rubber, to remove impurities preparatory to further processing.
- 92962 **SEPARATING, FILTERING, CLARIFYING, PRECIPITATING, AND STILL MACHINE OPERATORS AND TENDERS**
Operate or tend machines such as filter presses, shaker screens, centrifuges, condenser tubes, precipitator tanks, fermenting tanks, evaporating tanks, scrubbing towers and batch stills. These machines extract, sort, or separate liquids, gases, or solid materials from other materials in order to recover a refined product or material. Exclude workers who operate equipment to control chemical changes or reactions.
- 92965 **CRUSHING, GRINDING, MIXING, AND BLENDING MACHINE OPERATORS AND TENDERS**
Crushing, Grinding, and Polishing Machine Operators and Tenders: Operate or tend machines to crush or grind any of a wide variety of materials, such as coal, glass, plastic, dried fruit, grain, stone, chemicals, food, or rubber; or operate or tend machines that buff and polish materials or products, such as stone, glass, slate, plastic or metal trim, bowling balls, or eyeglasses. Mixing and Blending Machine Operators and Tenders: Operate or tend machines to mix or blend any of a wide variety of materials, such as spices, dough batter, tobacco, fruit juices, chemicals, livestock feed, food products, color pigments, or explosive ingredients.
- 92968 **EXTRUDING, FORMING, PRESSING, AND COMPACTING MACHINE SETTERS AND SET-UP OPERATORS**
Set up or set up and operate machines, such as glass forming machines, plodder machines, and tuber machines, to manufacture any of a wide variety of products, such as soap bars, formed rubber, glassware, food, brick, and tile, by means of extruding, compressing, or compacting.
- 92971 **EXTRUDING, FORMING, PRESSING, AND COMPACTING MACHINE OPERATORS AND TENDERS**
Operate or tend machines to shape and form any of a wide variety of manufactured products, such as glass bulbs, molded food and candy, rubber goods, clay products, wax products, tobacco plugs, cosmetics, or paper products, by means of extruding, compressing or compacting.

92974 PACKAGING AND FILLING MACHINE OPERATORS AND TENDERS

Operate or tend machines, such as filling machines, casing-running machines, ham rolling machines, preservative filling machines, baling machines, wrapping machines, and stuffing machines, to prepare industrial or consumer products, such as gas cylinders, meat and other food products, tobacco, insulation, ammunition, stuffed toys, and athletic equipment for storage or shipment.

92997 ALL OTHER MACHINE SETTERS AND SET-UP OPERATORS

All other machine setters and set-up operators not classified separately above.

92998 ALL OTHER MACHINE OPERATORS AND TENDERS

All other machine operators and tenders not classified separately above.

G. HAND WORKING OCCUPATIONS, INCLUDING ASSEMBLERS AND FABRICATORS**93000 HAND WORKERS, INCLUDING ASSEMBLERS AND FABRICATORS**

Fabricate, assemble, and hand finish products, or perform other hand work such as welding, cutting, molding, painting, grinding and sewing. Exclude workers who perform precision hand work such as patternmaking, precision molding, layout, tailoring, design painting and butchering and report in the earlier "Precision" category.

1. PRECISION ASSEMBLERS**93100 PRECISION ASSEMBLERS**

Perform precision assembling of a variety of products, such as machinery, aircraft, electrical or electronic equipment, and chronometers. This assembly work requires a high degree of precision, an ability to interpret detailed specifications and instructions, and the use of independent judgment and knowledge gained through experience and training. Substantial training (six months to several years or more) in either classroom or on the job is generally required to reach the "journey" level.

93102 AIRCRAFT STRUCTURE, SURFACES, RIGGING, AND SYSTEMS ASSEMBLERS, PRECISION

Assemble, fit, fasten, and install parts of airplanes, space vehicles, and missiles, such as tails, wings, fuselage, bulkheads, doors, stabilizers, and landing gear. Fit and fasten sheet metal covering to surface areas and other sections of the aircraft preparatory to welding or riveting. Install rigging and control equipment, tubing, and heating and ventilating systems.

- 93105 **MACHINE BUILDERS AND OTHER PRECISION MACHINE ASSEMBLERS**
Construct, assemble, or rebuild machines, such as engines, turbines, and office machines, or equipment used in construction, oil fields, rolling mills, textile and paper manufacturing, woodworking, printing, and food wrapping. Fit or assemble components or subassemblies. Install moving parts. Assemble systems of gears by aligning and meshing gears in gearbox. May test or assist in testing of completed product.
- 93108 **FITTERS, STRUCTURAL METAL, PRECISION**
Lay out, position, align, and fit together fabricated parts of structural metal products preparatory to welding or riveting.
- 93111 **ELECTROMECHANICAL EQUIPMENT ASSEMBLERS, PRECISION**
Assemble, test, and prepare electromechanical equipment or devices, such as servomechanisms, gear trains, gyros, dynamometers, ejection seat mechanisms, wave guides, magnetic drums, tape drives, brakes, control linkage, actuators, and gearbox mechanisms, according to specifications.
- 93114 **ELECTRICAL AND ELECTRONIC EQUIPMENT ASSEMBLERS, PRECISION**
Assemble or modify prototypes or final assemblies of electrical or electronic equipment, such as missile control systems, radio and test equipment, computers, numerical control machine tools, radar, sonar, telemetering systems, or appliances. Include workers who primarily assemble electrical systems for machinery.
- 93117 **WATCH, CLOCK, AND CHRONOMETER ASSEMBLERS, ADJUSTERS, CALIBRATORS, PRECISION**
Perform precision assembling or adjusting, within narrow tolerances, of watches, clocks, or chronometers. Include Watch Train Assemblers and Timing Adjusters.
- 93197 **ALL OTHER PRECISION ASSEMBLERS**
All other precision assemblers not classified separately above.

2. OTHER HAND WORKERS, INCLUDING ASSEMBLERS AND FABRICATORS

- 93902 **MACHINE ASSEMBLERS**
Perform assembly work at a level less than that required of precision assemblers. Include Air Conditioning Coil Assemblers, Ball Bearing Ring Assemblers, Fuel Injection Assemblers, and Subassemblers.
- 93905 **ELECTRICAL AND ELECTRONIC ASSEMBLERS**
Perform electrical and electronic assembly work at a level less than that required of precision assemblers. Include Electronic Wirers, Armature Connectors, Electric Motor Winders, Skein Winders, Carbon Brush Assemblers, Battery and Battery Parts Assemblers, Electric Sign Assemblers, and Electrical and Electronic Subassemblers.

93908 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. May involve the use of coil-winding and coil-making machines.

93911 GLAZIERS, MANUFACTURING

Install glass in millwork products, such as doors, windows, sashes, china closets, furniture, and office partitions. Exclude Safety Glass Installers, Refrigerator Glaziers, and Glaziers who work in the construction trades.

93914 WELDERS AND CUTTERS

Use hand-welding and flame-cutting equipment, such as arc welders, gas welders, and gas torches, to weld together metal components of such products as pipelines, automobiles, boilers, and ships; to join together components of fabricated sheet metal assemblies; or to cut, trim, or scarf metal objects to dimensions, as specified by layout, work orders, or blueprints.

93917 SOLDERERS AND BRAZERS

Use hand soldering and brazing equipment to join together metal parts or components of metal products, or to fill holes, indentations, and seams of fabricated metal products.

93921 PRESSERS, HAND

Press articles to remove wrinkles, flatten seams, and give shape by using hand iron. Articles pressed include: Drapes, knit goods, millinery parts, parachutes, garments, slip covers, and textiles such as lace, rayon, and silk. May block (shape) knitted garments after cleaning. May press leather goods.

93923 SEWERS, HAND

Sew, join, reinforce, or finish, usually with needle and thread, any of a wide variety of manufactured items, such as shoes, hats, umbrellas, rugs, baseballs, and hosiery. Include Weavers, Stitchers, and Finishers. Exclude Hand Sewers who repair articles.

93926 CUTTERS AND TRIMMERS, HAND

Use hand tools or hand-held power tools to cut and trim a variety of manufactured items, such as stone, glass, or rubber. Exclude Portable Machine Cutters who use patterns to cut multiple layers of fabric.

93928 PORTABLE MACHINE CUTTERS

Use portable electric cutter to cut multiple layers of fabric into parts for articles, such as awnings, fitted sheets, garments, hats, stuffed toys, and upholstered furniture.

93932 CARPET CUTTERS, DIAGRAMMERS, AND SEAMERS

Measure, mark, cut, and seam carpets or rugs to specific diagrams and dimensions for buildings. Include workers who cut linoleum. Exclude workers who install as well as cut carpet.

93935 CANNERY WORKERS

Perform any of a variety of routine tasks in canning, freezing, preserving, or packing food products. Duties may include sorting, grading, washing, peeling, trimming, or slicing agricultural produce.

93938 MEAT, POULTRY, AND FISH CUTTERS AND TRIMMERS, HAND

Use hand tools to perform a wide variety of food cutting and trimming tasks that require skills less than that of the precision level. Include Meat Boners, Carcass Splitters, Poultry Eviscerators, Fish Cleaners and Butchers, Skinners, and Stickers.

93941 METAL POURERS AND CASTERS, BASIC SHAPES

Operate hand-controlled mechanisms adjunctive to specialized machinery and equipment to pour and regulate the flow of molten metal into molds for producing castings or ingots of specific quality and size. Include Steel Pourers, Casters, and Ladle and Metal Pourers.

93944 MOLDERS AND CASTERS, HAND

Mold and cast, using hand tools or hand-held power tools, any of a wide variety of items, such as food products, lamps, figurines, ashtrays, tile, pipes, mannequins, and candles. Include Candy Molders, Pottery and Porcelain Casters, Refractory Molders, Concrete Vault Makers, and Candle Molders. Exclude Metal Pourers who cast basic shapes such as slabs, blooms, bars, or billets.

93947 PAINTING, COATING, AND DECORATING WORKERS, HAND

Paint, coat, and decorate, using hand tools or hand-held power tools, a wide variety of manufactured items, such as furniture, glass and plateware, lamps, jewelry, books, or leather products. Include Inlayers, Stainers, Enamellers, and Decal Appliers.

93951 ENGRAVING AND PRINTING WORKERS, HAND

Engrave and print, using hand tools or hand-held power tools, patterns, designs, etchings, trademarks, or lettering onto flat or curved surfaces of a wide variety of metal, glass, plastic, or paper items (e.g., name plates, glass, optical glass, bowling balls, tags, and stamps). Include workers below the precision level such as Etcher-Circuit Processors, Pantograph Engravers, and Silk Screen Etchers.

93953 GRINDING AND POLISHING WORKERS, HAND

Grind and polish, using hand tools or hand-held power tools, a wide variety of metal, stone, clay, plastic, and glass objects or parts. Include Grinders and Chippers, Polishers and Buffers, Metal Sanders and Finishers, Glass Grinders and Polishers, and Plastic Buffers and Finishers. Exclude precision-level workers.

93956 ASSEMBLERS AND FABRICATORS, EXCEPT MACHINE, ELECTRICAL, ELECTRONIC, AND PRECISION

Assemble or fit together parts to form complete units or subassemblies at a bench, conveyor line, or on the floor. Work may involve the use of hand tools, power tools, and special equipment in order to carry out fitting and assembly operations. Include assemblers whose duties are of a non-precision nature. Exclude electrical, electronic, machine, and precision assemblers, and workers who perform specialized operations exclusively as a part of assembly operations, such as riveting, welding, soldering, machining, or sawing.

93999 ALL OTHER HAND WORKERS

All other hand workers not classified separately above.

H. PLANT AND SYSTEM OCCUPATIONS**95000 PLANT AND SYSTEM WORKERS**

Control or operate systems of machines or entire processes through the use of control panels or centralized controls. Control such systems as chemical, petroleum, or water treatment systems.

95002 WATER AND LIQUID WASTE TREATMENT PLANT AND SYSTEM OPERATORS

Operate or control an entire process or system of machines, often through the use of panelboards, control boards, or semi-automatic equipment, to transfer or treat water and/or liquid waste.

95005 GAS PLANT OPERATORS

Distribute or process gas for utility companies and others. Distribute gas for an entire plant or process, often using panelboards, control boards, or semi-automatic equipment.

95008 CHEMICAL PLANT AND SYSTEM OPERATORS

Control or operate an entire chemical process or system of machines, such as reduction pots and heated air towers, through the use of panelboards, control boards, or semi-automatic equipment.

95011 PETROLEUM PUMP SYSTEM OPERATORS

Control or operate manifold and pumping systems to circulate liquids through a petroleum refinery. Exclude workers who do not operate entire manifold or pumping systems. Exclude Oil Pumpers who operate pipelines running outside of the refinery.

95014 PETROLEUM REFINERY AND CONTROL PANEL OPERATORS

Analyze specifications and control continuous operation of petroleum refining and processing units. Operate control panel to regulate temperature, pressure, rate of flow, and tank level in petroleum refining unit, according to process schedules.

95017 GAUGERS

Gauge and test oil in storage tanks. Regulate flow of oil into pipelines at wells, tank farms, refineries, and marine and rail terminals, following prescribed standards and regulations.

95021 POWER-GENERATING PLANT OPERATORS, EXCEPT AUXILIARY EQUIPMENT OPERATORS

Control or operate machinery, such as steam-driven turbogenerators, to generate electric power, often through the use of panelboards, control boards, or semi-automatic equipment. Exclude workers operating auxiliary equipment, such as pumps, fans, compressors, filters, feedwater heaters, chlorinators, and condensers.

95023 AUXILIARY EQUIPMENT OPERATORS, POWER

Control and maintain auxiliary equipment, such as pumps, fans, compressors, condensers, feedwater heaters, filters, and chlorinators, that supply water, fuel, lubricants, air, and auxiliary power for turbines, generators, boilers, and other power-generating plant facilities.

95026 POWER REACTOR OPERATORS

Control nuclear reactor that produces steam for generation of electric power. Coordinate operation of auxiliary equipment.

95028 POWER DISTRIBUTORS AND DISPATCHERS

Coordinate, regulate, or distribute electricity or steam in generating stations and substations, and over electric power lines. May work for utility company or in a large industrial establishment. May spend some time generating power.

95032 STATIONARY ENGINEERS

Operate and maintain stationary engines and mechanical equipment to provide utilities for buildings or industrial processes. Operate equipment such as steam engines, generators, motors, turbines, and steam boilers.

95099 ALL OTHER PLANT AND SYSTEM OPERATORS

All other plant and system operators not classified separately above.

I. TRANSPORTATION AND MATERIAL MOVING MACHINE AND VEHICLE OPERATORS**97000 TRANSPORTATION AND MATERIAL-MOVING MACHINE AND VEHICLE OPERATORS**

Operate or control vehicles used to transport people or materials. Include transportation-related workers such as Bridge Tenders, Service Station Attendants, and Parking Lot Attendants. Material-moving machines include equipment such as conveyors, pumps, cranes, and hoists.

1. MOTOR VEHICLE OPERATORS

97102 TRUCK DRIVERS, HEAVY OR TRACTOR-TRAILER

Drive a tractor-trailer combination or a truck with a capacity of at least 3 tons, to transport and deliver goods, livestock, or materials in liquid, loose or packaged form. May be required to unload truck.

97105 TRUCK DRIVERS, LIGHT, INCLUDE DELIVERY AND ROUTE WORKERS

Drive a truck, van, or automobile with a capacity under 3 tons. May drive light truck to deliver or pick up merchandise. May load and unload truck.

97108 BUS DRIVERS

Drive bus, transporting passengers over specified routes to local or distant points according to a time schedule. Assist passengers with baggage. Collect tickets or cash fares.

97111 BUS DRIVERS, SCHOOL

Transport students between pick-up points and school. Maintain order during trip and adhere to safety rules when loading and unloading pupils.

97114 TAXI DRIVERS AND CHAUFFEURS

Drive automobiles, limousines, custom-built sedans, or hearses to transport passengers or cargo. May drive automobiles for delivery. Exclude Ambulance Drivers and Bus Drivers.

97117 DRIVER/SALES WORKERS

Drive truck or other vehicle over established routes to: Deliver and sell goods, such as food products; pick up and deliver items, such as laundry; or refill and collect coins from vending machines. Include Newspaper Delivery Drivers.

97199 ALL OTHER MOTOR VEHICLE OPERATORS

All other motor vehicle operators not classified separately above.

2. RAIL TRANSPORTATION WORKERS

97302 RAILROAD CONDUCTORS AND YARDMASTERS

Conductors: Coordinate activities of train crew engaged in transporting or providing services to passengers on passenger train, or in transporting freight on freight train. Coordinate activities of switch-engine crew engaged in switching railroad cars within yard of railroad, industrial plant, or similar location. Yardmasters: Coordinate activities of workers engaged in railroad traffic operations, such as the makeup or breakup of trains and switching inbound or outbound traffic of railroad yard on a specified section of line. Review train schedules and switching orders.

97305 LOCOMOTIVE ENGINEERS

Drive electric, diesel-electric, steam, or gas-turbine-electric locomotives to transport passengers or freight. Interpret train orders, block or semaphore signals, and railroad rules and regulations.

97308 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.

97311 LOCOMOTIVE FIRERS

Monitor locomotive instruments and watch for dragging equipment, obstacles on rights-of-way, and train signals during run. Watch for and relay traffic signals from yard workers to yard engineer in railroad yard.

97314 SUBWAY AND STREETCAR OPERATORS

Operate subway or elevated suburban train or electric-powered streetcar to transport passengers.

97317 RAILROAD BRAKE, SIGNAL, AND SWITCH OPERATORS

Operate railroad track switches. Couple or uncouple rolling stock to make up or break up trains. Signal engineers and set warning signals. May inspect couplings, air hoses, journal boxes, and hand brakes.

97399 ALL OTHER RAIL VEHICLE OPERATORS AND CONTROLLERS

All other workers who operate on-track mobile equipment, except locomotives and mass transit vehicles. Include workers who control railroad equipment from yard tower or operate turntables. Exclude section-gang workers who operate equipment to build and repair track and track beds.

3. WATER TRANSPORTATION AND RELATED WORKERS**97502 CAPTAINS, WATER VESSEL**

Command water vessels, such as tugboats, ferryboats, or dredges, that travel into and out of harbors, estuaries, straits, sounds, and on rivers, lakes, bays, and oceans. Required to hold license issued by U.S. Coast Guard.

97505 MATES, SHIP, BOAT, AND BARGE

Supervise and coordinate activities of crew aboard ships, boats, barges, or dredges.

97508 PILOTS, SHIP

Command ships to steer them into and out of harbors, estuaries, straits, and sounds, and on rivers, lakes, and bays. Must be licensed by U.S. Coast Guard with limitations indicating class and tonnage of vessels for which license is valid and route and waters that may be piloted.

97511 MOTORBOAT OPERATORS

Operate motor-driven boats to carry passengers and freight; take depth soundings in turning basin; serve as liaison between ships, ship to shore, harbor and beach, or area patrol.

97514 ABLE SEAMEN

Stand watch at bow or on wing of bridge to look for obstructions in path of vessel. Measure water depth. Turn wheel on bridge or use emergency equipment as directed by Mate. Break out, rig, overhaul, and store cargo-handling gear, stationary rigging, and running gear. Chip rust from and paint deck or ship's structure. Must hold government-issued certification. Must hold Tankerman certification when working aboard liquid-carrying vessels.

97517 ORDINARY SEAMEN AND MARINE OILERS

Stand deck department watches and perform a variety of tasks to preserve the painted surface of the ship and to maintain lines and ship equipment, such as running and cargo-handling gear. May oil and grease moving parts of engines and auxiliary equipment. Must hold government-issued certification. Must hold Tanker certification when working aboard liquid-carrying vessels.

97521 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.

4. AIR TRANSPORTATION WORKERS**97702 AIRCRAFT PILOTS AND FLIGHT ENGINEERS**

Pilot and navigate flight of private or commercial aircraft for the transportation of passengers, freight, mail, or for other purposes. Must be Federally licensed. Include workers concerned with flight operations and maintenance when a pilot's or flight engineer's license is required. Include Test Pilots, Helicopter Pilots, and pilots who accompany other pilots to periodically test and review proficiency.

5. OTHER TRANSPORTATION AND RELATED WORKERS**97802 BRIDGE, LOCK, AND LIGHTHOUSE 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. Include Drawbridge Operators, Lock Tenders and Operators, and Slip Bridge Operators.

97805 SERVICE STATION ATTENDANTS

Service automobiles, buses, trucks, boats, and other automotive or marine vehicles with fuel, lubricants, and accessories. Collect payment for services and supplies. May lubricate vehicle, change motor oil, install antifreeze, or replace lights or other accessories such as windshield wiper blades or fan belts. May repair or replace tires.

97808 PARKING LOT ATTENDANTS

Park autos or issue tickets for customers in a parking lot or garage.

97899 ALL OTHER TRANSPORTATION AND RELATED WORKERS

All other transportation and related workers not classified separately above.

6. MATERIAL MOVING EQUIPMENT OPERATORS**97902 LONGSHORE EQUIPMENT OPERATORS**

Operate equipment to load crates, containers, and other items on or off ships. Exclude loading and unloading of bulk liquids.

97905 TANK CAR AND TRUCK LOADERS

Load and unload liquids from tank cars, trucks, barges, or ships. May perform a variety of other tasks relating to shipment of product.

97908 OIL PUMPERS, EXCEPT WELLHEAD

Operate steam, natural gas, gasoline, electric, or diesel pumps and auxiliary equipment to restore and control flow of oil from wells.

97911 WELLHEAD PUMPERS

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

97914 MAIN-LINE STATION ENGINEERS

Operate electric, diesel, or gas-driven pumping equipment to pump and route oil through pipelines at main-line or terminal stations.

97917 GAS PUMPING STATION OPERATORS

Control the operation of steam, gas, or electric- motor-driven compressor to maintain specified pressures on high and low-pressure mains dispensing gas from gasholders.

97921 GAS COMPRESSOR OPERATORS

Operate steam or internal combustion engines to transmit, compress, or recover gases, such as butane, nitrogen, hydrogen, and natural gas, in various production processes.

97923 EXCAVATING AND LOADING MACHINE OPERATORS

Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials. Exclude Dredge and Dragline Operators.

97926 DRAGLINE OPERATORS

Operate power-driven crane equipment with dragline bucket to excavate or move sand, gravel, mud, or other materials.

97928 DREDGE OPERATORS

Operate power-driven dredge to mine sand, gravel, or other materials from lakes, rivers, or streams; and to excavate and maintain navigable channels in waterways.

97932 LOADING MACHINE OPERATORS, UNDERGROUND MINING

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

97935 SHUTTLE CAR OPERATORS

Operate diesel or electric-powered shuttle car in underground mine, to transport materials from working face to mine cars or to conveyor.

97938 GRADER, BULLDOZER, AND SCRAPER OPERATORS

Operate machine or vehicle equipped with blades to remove, distribute, level, or grade earth. Exclude Paving, Surfacing, and Tamping Equipment Operators.

97941 HOIST AND WINCH OPERATORS

Operate or tend hoists or winches to lift and pull loads using power-operated cable equipment. Exclude Crane and Tower Operators.

97944 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. Exclude Dragline Operators.

97947 INDUSTRIAL TRUCK AND TRACTOR OPERATORS

Operate gasoline or electric-powered industrial trucks or tractors equipped with fork lift, elevated platform, or trailer hitch to move materials around a warehouse, storage yard, factory, construction site, or similar location. Exclude Logging Tractor Operators.

97951 CONVEYOR OPERATORS AND TENDERS

Control or tend conveyors or conveyor systems that move materials or products to and from stockpiles, processing stations, departments, vehicles, and underground workings. May control speed and routing of materials or products.

97953 PUMP OPERATORS

Tend, control, or operate power-driven, stationary, or portable pumps and manifold systems, to transfer gases, liquids, slurries, or powdered materials to and from various vessels and processes.

97956 OPERATING ENGINEERS

Operate several types of power construction equipment, such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers, or motor graders 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. Exclude workers who specialize in operation of a single type of heavy equipment, such as a bulldozer or crane.

97989 ALL OTHER MATERIAL-MOVING EQUIPMENT OPERATORS
All other material-moving equipment operators not classified separately above.

97999 ALL OTHER TRANSPORTATION AND MATERIAL-MOVING EQUIPMENT OPERATORS
All other transportation and material-moving equipment operators not classified separately above.

J. HELPERS, LABORERS, AND MATERIAL MOVERS, HAND- EXCLUDE AGRICULTURE AND FORESTRY LABORERS

98000 HELPERS, LABORERS, AND MATERIAL MOVERS, HAND, EXCLUDE AGRICULTURE AND FORESTRY LABORERS
Help production, construction, operating, and maintenance workers by performing non-machine tasks generally of a routine nature. Assist by machine feeding and offbearing, moving materials (manually), or loading and unloading; these workers do not operate or tend machinery or equipment directly. May also clean and wash vehicles and equipment. Exclude hand workers who are involved directly in the making of a product.

1. HELPERS- MECHANICS AND REPAIRERS

98102 HELPERS, MECHANICS AND REPAIRERS
Help mechanics and repairers 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.

2. HELPERS- CONSTRUCTION TRADES AND EXTRACTIVE WORKERS

98300 HELPERS, CONSTRUCTION TRADES AND EXTRACTIVE WORKERS
Help workers in the construction trades, such as Brickmasons, Carpenters, Electricians, Painters, Plumbers, and Surveyors. Perform duties such as furnishing tools, materials, and supplies to other workers; cleaning work areas, machines, and tools; and holding materials or tools for other workers.

98311 HELPERS, BRICK AND STONEMASONS AND HARD TILE SETTERS
Help Brickmasons, Stonemasons, or Hard Tile Setters by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation. Exclude construction or maintenance laborers who do not primarily assist Brickmasons, Stonemasons, or Hard Tile Setters.

98312 HELPERS, CARPENTERS AND RELATED WORKERS

Help Carpenters or carpentry-related craft workers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation. Exclude construction or maintenance laborers who do not primarily assist Carpenters or carpentry-related craft workers.

98313 HELPERS, ELECTRICIANS AND POWER-LINE TRANSMISSION INSTALLERS

Help Electricians or Power-line Transmission Installers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation. Exclude construction or maintenance laborers who do not primarily assist Electricians or Power-line Transmission Installers.

98314 HELPERS, PAINTERS, PAPERHANGERS, PLASTERERS, AND STUCCO MASONS

Help Painters, Paperhangers, Plasterers, or Stucco Masons by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation. Exclude construction or maintenance laborers who do not primarily assist Painters, Paperhangers, Plasterers, or Stucco Masons.

98315 HELPERS, PLUMBERS, PIPEFITTERS, AND STEAMFITTERS

Help Plumbers, Pipefitters, or Steamfitters by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation. Exclude construction or maintenance laborers who do not primarily assist Plumbers, Pipefitters, or Steamfitters.

98316 HELPERS, ROOFERS

Help Roofers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation. Exclude construction or maintenance laborers who do not primarily assist Roofers.

98319 HELPERS, ALL OTHER CONSTRUCTION TRADES WORKERS

All other construction trades helpers not classified separately above.

98323 HELPERS, EXTRACTIVE WORKERS

Help extractive craft workers, such as Earth Drillers, Blasters and Explosives Workers, Derrick Operators, and Mining Machine Operators, by performing duties of lesser skill. Duties include supplying equipment or cleaning work area. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation. Exclude laborers who do not primarily assist extractive craft workers.

3. MACHINE FEEDERS AND OFFBEARERS

98502 MACHINE FEEDERS AND OFFBEARERS

Feed materials into or remove materials from machines or equipment that is automatic or tended by other workers.

4. FREIGHT, STOCK, AND MATERIAL MOVERS, HAND

98700 FREIGHT, STOCK, AND MATERIAL MOVERS, HAND

Manually move materials. Work in a variety of settings such as warehouses, production areas, stockrooms, or shipping departments.

98702 STEVEDORES, EXCEPT EQUIPMENT OPERATORS

Manually load and unload ship cargo. Stack cargo in transit shed or in hold of ship using pallet or cargo board. Attach and move slings to lift cargo. Guide load lift. Exclude workers who primarily load and unload ship cargo using power equipment, such as power winches, cranes, and lift trucks.

98705 REFUSE AND RECYCLABLE MATERIAL COLLECTORS

Collect refuse or recyclable materials from containers and put into truck, on a designated route.

98799 ALL OTHER FREIGHT, STOCK, AND MATERIAL MOVERS, HAND

All other freight, stock, and material movers, hand, not classified separately above.

5. OTHER HELPERS, LABORERS, AND MATERIAL MOVERS, HAND

98902 HAND PACKERS AND PACKAGERS

Pack or package by hand a wide variety of products and materials. Exclude workers whose jobs require more than minimum training.

98905 VEHICLE WASHERS AND EQUIPMENT CLEANERS

Wash or otherwise clean vehicles, machinery, and other equipment. Use such materials as water, cleaning agents, brushes, cloths, and hoses. Exclude Janitors and Building Cleaners.

98999 ALL OTHER HELPERS, LABORERS, AND MATERIAL MOVERS, HAND

All other helpers, laborers, and material movers, hand, not classified separately above.