

# Revising the Standard Occupational Classification System



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# Preface

Concerns about the quality of the U.S. workforce, skills training issues, and changes in occupational structures due to new technology, competitive economic pressures, and shifts to forms of “high performance” work organizations, have focused attention on the quality of occupational information and statistics. Current occupational data and their underlying classification structures were criticized as being fragmented, incompatible, outdated, and lacking information on skills. Many users and producers of occupational data believed that it was time to revise the U.S. Standard Occupational Classification (SOC) system to a unified classification structure.

In 1994, the Office of Management and Budget established a Standard Occupational Classification Revision Policy Committee (SOC Committee) to develop a unified classification structure that would meet the needs of the 21st century. The Committee was chaired by the Bureau of Labor Statistics and the Bureau of Census, with representatives from the Bureau of Labor Statistics, the Bureau of Census, the Employment and Training Administration (Department of Labor), the Office of Personnel Management, the Defense Manpower Data Center,

and ex officio the National Science Foundation, the National Occupational Information Coordinating Committee, and the Office of Management and Budget.

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# Revising the Standard Occupational Classification System

**A**lthough occupational data has been collected in the United States since the 1850 Census of Population, the modern Standard Occupational Classification (SOC) system was not introduced until 1977. The SOC is intended to include all occupations for which work is performed for pay or profit. As with any new taxonomy, there were flaws and omissions in the original SOC, and the system was revised in 1980, in time to be used for tabulations from the 1980 decennial census.

Despite plans for frequent review, it was not until the mid-1990s that the validity and usefulness of the 1980 SOC for current needs was examined. To determine how accurately the 1980 SOC reflected the world of work 15 years later, the Office of Management and Budget (OMB) chartered the Standard Occupational Classification Revision Policy Committee (SOC Committee).

This article provides a description of the SOC revision process. For background, it begins with a brief summary of the Standard Industrial Classification (SIC) revision process and the work of the Economic Classification Policy Committee (ECP Committee), much of which was emulated by the SOC Committee. The article then details why the SOC was revised and describes its key characteristics.

## The SIC revision process

The ECP Committee was established by OMB in 1992 to re-examine the SIC system. At the time, the SIC had been in use for more than 50 years. So pervasive was the system throughout U.S. industry that virtually every business establishment in the Nation knew its SIC code. Yet, many SIC-based statistics were out of step with the changes that have occurred in the U.S. economy in recent decades.

The SIC system had been introduced in the 1930s to help classify the growing number of new manufacturing industries that had developed since the early 1900s. By 1992, however, it was clear that a new classification system was needed to accommodate newly developed industries in such areas as information services, health care services, and high-tech manufacturing. Further, the initiation of the North American Free Trade Agreement in 1994 increased the need for comparable statistics from the United States, Canada, and Mexico.

The resultant system, the North American Industry Classification System (NAICS), is a complete restructuring of the SIC, organized to conform to the principle of grouping establishments by their production processes alone—that is,

NAICS is a supply-based or production-oriented classification system. By contrast, the former system used a combination of supply and demand characteristics to classify industries. Another advantage of NAICS is that each participating country can individualize the new system to meet its own needs, as long as data can be aggregated to standard NAICS industries.<sup>1</sup>

The SOC Committee identified four key steps in the ECP Committee process that the members thought would be useful to emulate in the SOC revision process: 1) identification of issues (including commissioned issue papers), 2) designation of an organizing principle, 3) work by subgroups, and 4) adjudication of differences of opinion.

## Occupational classification history

Occupational classification is not a new topic of government interest. The published tabulations from the 1850 Census of Population constitute the first de facto classification. There were 322 occupations listed, including such interesting jobs as *daguerrotypists* (photographers) and *salaeratus* (baking soda) *makers*. (See appendix A for a complete list of the occupations used in the 1850 Census.) In early classification systems, too much emphasis was placed on the industry in which one worked. While it is true that the work setting can influence the job, it is the hallmark of more recent classification systems that characteristics of the work performed comes first.

More frequent data collection began in 1942 with the monthly labor force survey. The U.S. Employment Service needed occupational statistics for its work and developed a Convertibility List of Occupations with Conversion Tables to serve as a bridge between its statistics and information from the 1940 Census of Population. Continued revisions to the census classification scheme and publication of the third edition of the Department of Labor's *Dictionary of Occupational Titles* in 1965 encouraged the government to begin a thorough reexamination of occupational taxonomy.

Without a standard, initially comparable systems will tend to drift apart, reducing the ability of an analyst to compare similar data collected for different purposes. Occupational data from household surveys, for example, which provide demographic information, could not easily be compared with occupational data from industry-supplied, or establishment-based surveys. Similarly, detailed job descriptions from the *Dictionary of Occupational Titles* could not easily be linked

to survey data. The need to devise such a standard in order to link these different systems resulted in the 1977 SOC (revised and reissued in 1980).

Despite agreements to maintain and update the original SOC system, for various reasons—the need to maintain each program’s historical continuity, a lack of Federal funding, and the absence of a clear directive to enforce comparability—the original system was not revised after 1980. Consequently, many agencies set up data collection systems with occupational classification schemes that differed from the SOC. Observing this problem, BLS hosted an International Occupational Classification Conference to establish a context for a new SOC revision process.<sup>2</sup> Many new ideas and approaches were presented that influenced the SOC Committee. Similarly, the Employment and Training Administration’s Advisory Panel for the *Dictionary of Occupational Titles* had just completed a review of the dictionary and had recommended substantial changes.<sup>3</sup>

Persuaded that a reconciliation was in order, OMB subsequently invited all Federal agencies with an occupation classification system to join together to revise the SOC. The SOC Committee included representatives from BLS, the Bureau of the Census, the Employment and Training Administration, the Defense Manpower Data Center, and the Office of Personnel Management. In addition, ex-officio members included the National Science Foundation, the National Occupational Information Coordinating Committee, and OMB. Other Federal agencies, such as the Department of Education, the Department of Health and Human Services, and the Equal Employment Opportunity Commission, participated in several meetings of the SOC Committee as well, or as part of the Federal Consultation Group.

### The SOC revision process

OMB chartered the SOC Committee in October 1994. Shortly afterward, the SOC Committee published a notice in the *Federal Register* calling for comments specifically on the following: 1) the uses of occupational data, 2) the purpose and scope of occupational classification, 3) the principles underlying the 1980 SOC, 4) conceptual options for the new SOC, and 5) the SOC revision process.<sup>4</sup>

The SOC Committee’s main concern was identifying an organizing principle for the revised SOC, which required careful consideration of the conceptual options. Four options were identified in the notice for public comment. The first, and the basic concept behind the 1980 SOC, was the type of work performed. The second option was to model the new SOC after the International Standard Classification of Occupations in recognition of the increasing internationalization of employment. The third option was to devise a “skills-based system,” following the recommendations of the Advisory Panel for the *Dictionary of Occupational Titles*. The fourth option identified, an “economic-based system,” echoed the choice of the ECP Committee in their revision of the SIC system.

After the public comment period, the SOC Committee es-

tablished the following criteria to guide the revision process:

- The new classification system covers all occupations in which work is performed for pay or profit, including work performed in family-operated enterprises by family members who are not directly compensated. It excludes occupations unique to volunteers.
- The new system reflects the current occupational structure of the United States and has sufficient flexibility to assimilate new occupations.
- Occupations are classified on the basis of work performed, and required skills, education, training, or credentials.
- Each occupation is assigned to only one group at the lowest level of the classification.
- Supervisors of professional and technical workers usually have a background similar to the workers they supervise and are therefore classified with the workers they supervise. Likewise, team leaders, lead workers, and supervisors of production workers who spend at least 20 percent of their time performing work similar to the workers they supervise, are classified with the workers they supervise.
- Supervisors of production workers who spend less than 20 percent of their time performing the same work as the workers they supervise are classified separately.
- First-line supervisors/managers are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work.
- Apprentices and trainees should be classified with the occupations for which they are being trained, while helpers and aides should be classified separately.
- Some data-reporting agencies may collect and report data at a more aggregated level, such as broad occupation, minor group, or major group, when enough detail is not available to classify workers into a detailed occupation.
- If an occupation is not included as a distinct detailed occupation listed in the structure, it should be classified in the appropriate residual occupation. Residual occupations are all other occupations in a major, minor, or broad group that are not classified separately.
- When workers may be classified in more than one occupation, they should be classified in the occupation that requires the highest level of skill. If there is no measurable difference in skill requirements, the worker is included in the occupation in which he or she spends the most time.

The SOC Committee opted for practical approaches to classification rather than for (perhaps more appealing) theoretical approaches. The key classification principle chosen for the new SOC was to continue the previous focus on work performed (with “skills-based considerations”). In the SOC Committee’s judgment, the ability to identify and measure skills consistently had not advanced far enough.<sup>5</sup> The International Standard Classification of Occupations was not used because it was not flexible enough for U.S. needs.<sup>6</sup> Finally,

the SOC Committee believed that an economic-based approach would not provide sufficient practical guidance to employers or employees.<sup>7</sup>

The SOC Committee also solicited public participation in the next part of the process, building the revised SOC. To develop the new system of occupations, the Committee formed six work groups—five of which were based on skills groupings of Occupation Employment Statistics (OES) occupations and one of which dealt with military occupations. The OES was used as a starting point partly because doing so would enable some historical comparability and partly because BLS was leading much of the work group efforts and thus using BLS survey data would speed the revision process. The following six work groups were formed: 1) management, administrative, and clerical; 2) natural science, law, health, education, and arts; 3) sales and service; 4) construction, extraction, agricultural, and transportation; 5) mechanical and production; and 6) military.

The work groups invited experts from many areas to testify and also requested written recommendations using the SOC revision guidelines. Their procedure was to develop a proposed structure plus a title, a definition, and a list of associated job titles. Each proposed occupation was reviewed by the SOC Committee.

Once most of the occupations were defined and accepted, another work group was formed to discuss and recommend a hierarchy, a key characteristic of the 1998 SOC. Developing the hierarchy ultimately proved one of the more challenging aspects of the process. Perhaps more than any other part of the SOC revision, the hierarchy changed most from its preliminary stage to its final structure, as the Committee struggled to make the SOC more transparent to its users. (Appendix B lists the final 1998 SOC detailed occupations.)

In July 1997, the SOC Committee published the proposed new structure. After considering more than 200 comments, a revised structure was submitted to OMB and issued in August 1998.<sup>8</sup> Subsequently, additional comments were requested by OMB and minor further changes were made.

### **Purpose: a standardized system**

The 1998 SOC was developed in response to a concern that the existing SOC did not meet the need for a universal occupational classification system to which all Federal Government agencies and—it was hoped—other collectors of occupational information would adhere. The following selected government agencies have collected and used occupational data based on unique occupational classification systems that suit their needs.

*Bureau of Labor Statistics.* The Occupational Employment Statistics (OES) program collects employment data annually on nearly 800 occupations by industry based on establishment surveys of wage and salary workers, who account for about 9 out of 10 workers in the Nation. The OES survey classifies workers according to occupational definitions, a characteristic used for classification in 1998 SOC.

*Bureau of the Census.* Both the decennial Census of Population and the monthly Current Population Survey (CPS) tabulate data for about 500 occupations for each of the three classes of workers—wage and salary workers, the self-employed, and unpaid family workers. In addition to employment, these programs collect data on a number of demographic characteristics—age, sex, race, and Hispanic origin—as well as a wide range of other characteristics, such as educational attainment, number of hours worked, number of job openings, and employment status. Both the decennial Census of Population and the CPS classify workers according to the job titles given by the survey respondents. Classifying workers according to associated job titles is another characteristic of the 1998 SOC.

*Employment and Training Administration.* The *Dictionary of Occupational Titles* identified and defined more than 12,000 jobs. This classification system has been replaced by the Occupational Information Network (O\*NET), which adheres to the SOC.

*Other agencies.* The Department of Education collects data on teachers, the Bureau of Health Professions gathers information on health occupations, and the National Science Foundation surveys focus on scientists and engineers. The Office of Personnel Management publishes data on occupations in the Federal Government, and the Department of Defense maintains data on military personnel.

The existence of different occupational data collection systems in the Federal Government presents a major problem—data collected by one program often is not suitable for other uses. Comparisons across programs are limited to the effectiveness and accuracy of crosswalks between different occupational classification systems. For example, data on educational attainment collected through the CPS can only be used with data on employment from the OES program for occupations that are considered comparable from both surveys. Universal adherence to the 1998 SOC will aid analysis of educational, demographic, economic, and other factors that affect employment, wages, and other worker characteristics.

### **Key characteristics**

*Structured for comparability.* The SOC is composed of four hierarchical levels to enable data collectors to choose a level of detail corresponding to their interests and abilities to collect data on different occupations. The Bureau of Labor Statistics, through its establishment survey that classifies workers according to occupational definitions, is generally able to collect data on more detailed occupations than is the Bureau of the Census, whose household surveys rely almost exclusively on job titles given by respondents to classify workers. The Bureau of Labor Statistics collects data on both heavy and light truck drivers, for example, while the Bureau of the Census cannot differentiate between the two.

The following list shows the 23 major occupational groups of the revised SOC:

- Management occupations
- Business and financial operations occupations
- Computer and mathematical occupations
- Architecture and engineering occupations
- Life, physical, and social science occupations
- Community and social services occupations
- Legal occupations
- Education, training, and library occupations
- Arts, design, entertainment, sports, and media occupations
- Healthcare practitioners and technical occupations
- Healthcare support occupations
- Protective service occupations
- Food preparation and serving related occupations
- Building and grounds cleaning and maintenance occupations
- Personal care and service occupations
- Sales and related occupations
- Office and administrative support occupations
- Farming, fishing, and forestry occupations
- Construction and extraction occupations
- Installation, maintenance, and repair occupations
- Production occupations
- Transportation and material moving occupations
- Military specific occupations

These major groups include 98 minor groups, 452 broad occupations, and 822 detailed occupations.<sup>9</sup> (See appendix B.) Occupations with similar skills or work activities are grouped at each of the four levels of hierarchy to facilitate comparisons. For example, the major group, life, physical, and social science occupations, is divided into four minor groups—life scientists, physical scientists, social scientists and related workers, and life, physical, and social science technicians. Life scientists contains broad occupations, such as agriculture and food scientists, as well as biological scientists. The broad occupation, biological scientists, includes detailed occupations such as biochemists and biophysicists as well as microbiologists. The following example shows the hierarchical structure of the 1998 SOC:

**19-0000 Life, physical, and social science occupations**

*(major group)*

19-000 Life scientists *(minor group)*

19-1020 Biological scientists *(broad occupation)*

19-1021 Biochemists and biophysicists *(detailed occupation)*

19-1022 Microbiologists *(detailed occupation)*

19-1023 Zoologists and wildlife biologists *(detailed occupation)*

19-1029 Biological scientists, all other *(detailed occupation)*

Broad occupations often include several detailed occupations that are difficult to distinguish without further information. For example, people may report their occupation as bi-

ologist or psychologist without identifying a concentration. Broad occupations, such as psychologists, include more detailed occupations, such as industrial-organizational psychologists, for those requiring further detail. For cases in which there is little confusion about the content of a detailed occupation, the broad occupation is the same as the detailed occupation. For example, because it is relatively easy to identify lawyers, the broad occupation, lawyers, is the same as the detailed occupation.

*Reflects structure of current workforce.* In addition to ensuring comparability among various surveys, the 1998 SOC was designed to mirror the current occupational structure in the Nation, and, in effect, serve as a bridge to occupational classification in the 21st century. The new system should lead to the collection of meaningful data about the workforce and benefit various users of occupational data. These users might include education and training planners; jobseekers, students, and others seeking career guidance; various government programs, including occupational safety and health, welfare-to-work, and equal employment opportunity; and private companies wishing to relocate or set salary scales.

Reflecting advances in factory and office automation and information technology, the shift to a services-oriented economy, and increasing concern for the environment, the new classification structure has more professional, technical, and service occupations and fewer production and administrative support occupations than earlier classification systems. Although the designation “professional” does not exist in the 1998 SOC, the new classification system reflects expanded coverage of occupations classified as professional and technical in earlier classification systems. These occupations have been dispersed among a number of major occupational groups, such as computer and mathematical occupations, community and social services occupations, healthcare practitioners and technical occupations, and legal occupations.

Designers, systems analysts, drafters, counselors, dentists, physicians, artists, and social scientists are among the occupations that are covered in greater detail in the new SOC. For example, the SOC breaks out a number of designer specialties—commercial and industrial, fashion, floral, graphic, interior, and set and exhibit designers. Similarly, the new classification breaks out additional social science specialties—market and survey researchers, sociologists, anthropologists and archeologists, geographers, historians, and political scientists. Examples of new occupations include environmental engineers; environmental engineering technicians; environmental scientists and specialists, including health; environmental science and protection technicians, including health; computer software engineers; multimedia artists and animators; and forensic science technicians; among others.

In the services groups, gaming occupations, such as gaming and sportsbook writers and runners, have been added as a result of growth among these occupations in several States. Other relatively new service occupations include skin care

specialists, concierges, massage therapists, and fitness trainers and aerobics instructors.

Production occupations, on the other hand, have undergone significant consolidation. For example, various printing machine operators have been combined into one occupation in the 1998 SOC. Because many factories now employ one person to perform the tasks of setting up and operating machines, both tasks have been combined into one occupation. In addition, many factories now employ teams in which each team member is able to perform all or most of the team assembly activities; these people are included in the occupation, team assemblers. The SOC also includes relatively new production occupations such as semiconductor processors and fiberglass laminators and fabricators.

Office and administrative support occupations—for example, office machine operators—also have been consolidated. Relatively new office and administrative support occupations include customer service representatives and executive secretaries and administrative assistants.

*Greater flexibility.* To accommodate the needs of different data collection agencies, the SOC enables data collection at more detailed or less detailed levels, while still allowing data comparability at certain levels of the hierarchy. Each occupation in the SOC is assigned a 6-digit code. (The first two digits represent the major group, the third digit represents the minor group, the fourth and fifth digits represent the broad occupation, and the sixth digit represents the detailed occupation.) Data collection agencies wanting more detail to measure additional worker characteristics can split a defined occupation into more detailed occupations by adding a decimal point and more digits to the SOC code. For example, secondary school teachers (25-3031) is a detailed occupation. Agencies collecting more detailed information on teachers by subject matter might use 25-3031.1 for secondary school science teachers or 25-3031.12 for secondary school biology teachers. Additional levels of detail also may be used to distinguish workers who have different training, demographic characteristics, or years of experience. For users wanting less detail, the SOC Committee suggests combining the 23 major groups into 11 or even 6 groups if needed for tabulation purposes.<sup>10</sup>

*Comprehensive coverage.* The Standard Occupational Classification covers all workers in the United States. In some cases, the worker will not exactly fit into a defined occupation and will be classified in a residual occupation at the most detailed level possible. These residual categories are placed throughout the structure as needed. Like other detailed occupations, residual occupations may be individually defined so that separate data can be collected. For example, the broad occupation, biological scientists, lists three types of biological scientists explicitly, but this list is not exhaustive. In order to include all workers in the appropriate classification, residual occupations are added for the workers not defined separately. Geneticists, for example, are included in the residual category, all other biological scientists.

*Associated job titles.* To facilitate consistent classification by data collection agencies across surveys, the 1998 SOC associates some 30,000 job titles with detailed occupations. For example, associated titles will ensure that a podiatric surgeon consistently will be classified as a podiatrist rather than as a surgeon. Because many of these job titles are industry-specific, the industries also are listed for many titles.

*Occupational definitions.* A universal occupational classification cannot rely on job title alone. To further facilitate consistent classification, each detailed occupation has a definition that uniquely defines the workers that are included. Definitions begin with tasks that all workers in the occupation are expected to perform. The qualifier “may” precedes duties that only some workers perform. Where a definition includes duties also performed by workers in another occupation, cross-references to the occupation are provided. A sample of occupational definitions follows:

(15-1081) *Network systems and data communications analysts:* Analyze, design, test, and evaluate network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, and other data communications systems. Perform network modeling, analysis, and planning. Research and recommend network and data communications hardware and software. Include telecommunications specialists who deal with the interfacing of computer and communications equipment. May supervise computer programmers.

*Illustrative examples:* Internet developer; Systems integrator; Webmaster

*Military occupations.* The new SOC also covers military jobs. Workers in military occupations that are similar to nonmilitary occupations, such as physicians, cooks, or secretaries, are classified with nonmilitary workers. Those in occupations specific to the military, such as infantry, are in a separate group. However, data on all military personnel—whether specific to the military or not—usually will be separate from data on the civilian labor force collected by the Bureau of Labor Statistics, the Bureau of the Census, and other government agencies.

*Historical comparability.* Comparability with older classification systems is important for analyzing long-term trends in employment and other characteristics of workers. While such comparability was not the primary consideration in development of the 1998 SOC, researchers will retain the ability to make most historical comparisons.

*Flexibility for change.* The SOC Committee has proposed that a permanent review committee be established to keep the SOC up to date, and OMB currently is considering the proposal. This committee would consider proposals for new occupations, redefine occupations as job duties change, and amend the list of associated job titles accordingly. For example, some associated job titles in the 1998 SOC might become detailed occupations in future versions of the SOC. The next major revision is expected to begin in 2005, in preparation for the 2010 Census of Population.



## Implementation of the 1998 SOC

The final 1998 SOC will be published formally by the Office of Management and Budget. All Federal Government agencies that collect occupational data are expected to adopt the 1998 SOC over the next few years. The following implementation schedule will be used by the Bureau of Labor Statistics and the Bureau of the Census—the agencies with the most comprehensive occupational data collection systems.

*Bureau of Labor Statistics.* The annual Occupational Employment Statistics survey will first reflect the 1998 SOC in 1999; national, State, and metropolitan statistical area data are expected to be available in early 2001.

The Bureau's Office of Employment Projections develops new national employment projections every 2 years, reflected in its "industry-occupation matrix." This matrix presents estimates of current and projected employment—covering a 10-year period—by detailed industry and occupation. The occupational staffing pattern, or detailed occupational makeup, of each industry in the matrix reflects Occupational Employment Statistics survey data. The 1998 SOC will first be reflected in the industry-occupation matrix covering the 2002–12 period, which is expected to be released in late 2003.

The Office of Employment Projections also produces the *Occupational Outlook Handbook*, which is among the most widely used career guidance resources in the Nation, and related publications based on the Bureau's biennial employment projections. Occupational definitions and data completely based on the 1998 SOC will be incorporated for the first time in the 2004–05 edition of the *Handbook*, which is expected to be published in early 2004.

*Bureau of the Census.* Data collected by the 2000 Census of Population will be coded to the 1998 SOC and published in 2002. Data from the Current Population Survey will be based on the new classification for the first time in 2003.

### Where to find more information

The final 1998 SOC ultimately will be published in a

two-volume manual. Volume I will contain the hierarchical structure, a complete list of occupational titles and their definitions, a description of the SOC revision process, and a section on frequently asked questions. Volume II will contain a list of some 30,000 job titles that are commonly used by individuals and establishments when reporting employment by occupation. The second volume also will include an alphabetical index of all associated titles and industries and will reference them to the occupation in which they are found. Volumes I and II of the 1998 SOC also will be available at the following Internet address:

[http://stats.bls.gov/soc/soc\\_home.htm](http://stats.bls.gov/soc/soc_home.htm)

O\*NET, the Occupational Information Network, adheres to the 1998 SOC. Information on this occupational classification system appears in "Replace with a Database: O\*NET Replaces the Dictionary of Occupational Titles," *Occupational Outlook Quarterly* (Bureau of Labor Statistics, Spring 1999). O\*NET also may be accessed at the following Internet address:

<http://www.doleta.gov/programs/onet>

The 1998 SOC will be incorporated into the *Occupational Outlook Handbook* and the Bureau of Labor Statistics industry-occupation matrix. Both the *Handbook* and matrix can be accessed at the following Internet address:

<http://stats.bls.gov/emphome.htm>

To facilitate historical comparisons, the Bureau of Labor Statistics will develop a crosswalk showing the relationship between occupations in the 1998 SOC and the 1997 Occupational Employment Statistics survey.

The Bureau of the Census also is developing a crosswalk showing the relationship between the occupations in the 1998 SOC and those of the 1990 and 2000 censuses. The crosswalk will be available at the following (Bureau of the Census) Internet address:

<http://www.census.gov/hhes/www/occupation.html>

## Endnotes

<sup>1</sup> For a recent summary of NAICS, see John B. Murphy, "Introducing the North American Industry Classification System," *Monthly Labor Review*, July 1998, pp. 43–47.

<sup>2</sup> For more on the conference, see *Proceedings of the International Occupation Classification Conference*, Report 833 (Bureau of Labor Statistics, September 1993).

<sup>3</sup> See *The New DOT: A Database of Occupational Titles for the Twenty-First Century*, final report of the Advisory Panel for the *Dictionary of Occupational Titles* (U.S. Department of Labor, Employment and Training Administration, May 1993).

<sup>4</sup> See *Federal Register*, February 28, 1995, p. 10998.

<sup>5</sup> The Bureau of the Census tested the feasibility of data collection to implement a skills-based approach on its 1995 National Content Survey test of questions for the 2000 Census of Population. The SOC Committee also commissioned work by the Joint Program in Survey Methodology on the collectibility of skills information. BLS also developed a prototype job family matrix (modeled on the Canadian system) that classified occupations by

skill level. See "Prototype Skills-based Job Family Matrix," unpublished report (Bureau of Labor Statistics, April 1994).

<sup>6</sup> An additional drawback of ISCO-88 was its inclusion of "female" occupations; the SOC Committee decided not to make any gender-based distinctions in the SOC.

<sup>7</sup> See *Federal Register*, October 5, 1995, p. 52285.

<sup>8</sup> See *Federal Register*, July 7, 1997, pp. 36338-36409; and August 5, 1998, pp. 41896–41923. OMB received comments on the final report as well and intends to issue the final 1998 SOC by the end of 1999. The SOC Committee is currently working on a two-volume SOC manual.

<sup>9</sup> In comparison, the 1980 SOC included 22 divisions (comparable to major groups in the 1998 SOC), 60 major groups (comparable to minor groups in the 1998 SOC), 223 minor groups (comparable to broad occupations in the 1998 SOC), and 664 unit groups (comparable to detailed occupations in the 1998 SOC).

<sup>10</sup> *Federal Register*, August 5, 1998, pp. 41897–41898.

# Appendix A: Occupational classification used in the 1850 Census of Population

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Actors	Civil engineers	Hair workers
Agents	Clerks	Hardware manufacturers
Agricultural implement makers	Clergymen	Hat and cap manufacturers
Apothecaries and druggists	Clock makers	Hemp dressers
Apprentices	Clothiers	Herdsmen, graziers, and rancheros
Architects	Cloth manufacturers	Horse dealers
Armorers	Coachmakers	Hosiers
Artificial flower makers	Collectors	Hunter, trappers, and rangers
Artists	Colliers	
Astronomical, mathematical, and nautical instrument makers	Comb makers	Ice dealers
Auctioneers	Cotton-gin makers	India-rubber manufacturers
Authors	Confectioners	Ink manufacturers
Bakers	Contractors	Innkeepers
Bankers	Coopers	Iron founders
Bank and insurance officers	Coppersmiths	Ironmongers
Barbers	Cordwainers	Iron workers
Barkeepers	Cork-cutters	
Basket makers	Cotton manufacturers	Japanners
Bell and brass founders	Cutlers	Jewellers
Bell hangers and locksmiths	Daguerreotypists	Joiners
Bellows makers	Dairymen and milkmen	
Blacking manufacturers	Dealers	Laborers
Black and white smiths	Dentists	Lace manufacturers
Block and pump makers	Draughtsmen	Lamp makers
Boarding-house keepers	Drivers	Lapidaries
Boat builders	Drovers	Last makers
Boatmen	Dyers and bleachers	Lathe makers
Boiler makers		Lath makers
Bone-black makers	Editors	Lawyers
Bookbinders	Engineers	Lead workers
Booksellers and stationers	Engravers	Lightning-rod makers
Bottlers	Enamellers	Lime burners
Box makers		Linseed oil manufacturers
Brass and composition workers	Factory hands	Livery-stable keepers
Brewers and distillers	Farmers	Looking glass makers
Brick makers	Farriers	Lumbermen
Bridge and dock builders	Feather dressers	
Brokers	File cutters	Machinists
Broom makers	Fire-engine makers	Manufacturers not otherwise specified
Brush makers	Firemen	Map makers
Builders	Firework makers	Mariners
Butchers	Fishermen	Marketmen
Button makers	Flax dressers	Masons and plasterers
	Frame makers	Mast makers
Cabinet and chair makers	Fruiterers	Match makers
Cadets	Furriers	Mechanics not otherwise specified
Calico printers		Merchants
Card manufacturers	Gardeners and florists	Millers
Carpenters	Gas fitters	Millwrights
Carpet makers	Gas makers	Miners
Carters	Gate keepers	Mineral water manufacturers
Carvers and gilders	Glass manufacturers	Model makers
Cattle dealers	Glass stainers	Morocco dressers
Caulkers	Glovers	Moulders
Cement makers	Glue makers	Mould makers
Chandlers	Gold beaters	Muleteers
Charcoal-burners	Gold pen makers	Musicians
Chemists	Gold and silver smiths	Music sellers
Chimney-sweeps	Grate makers	Music teachers
Chocolate manufacturers	Grindstone and millstone makers	Mustard makers
City, county, and town officers	Grocers	
	Gunsmiths	Nail manufacturers

Needle makers  
 Newsmen  
 Nursery men  
  
 Occultists  
 Oil-cloth manufacturers  
 Oil makers  
 Opticians  
 Organ builders  
 Ostlers  
 Overseers  
 Oystermen  
  
 Packers  
 Painters and glaziers  
 Paper dealers  
 Paperhangers and upholsterers  
 Paper manufacturers  
 Paper rulers  
 Paper stainers  
 Patent-leather manufacturers  
 Patent-medicine makers  
 Pattern makers  
 Pavers  
 Pawnbrokers  
 Pedlers  
 Pen makers  
 Pencil makers  
 Perfumers  
 Philosophical instrument makers  
 Physicians  
 Pianoforte and musical instrument makers  
 Pilots  
 Pin manufacturers  
 Pipe makers  
 Plane makers  
 Planters  
 Plaster-figure makers  
 Platers  
 Plumbers  
 Pocket-book manufacturers  
 Porcelain manufacturers  
 Porters and carriers  
 Pot and pearl ash manufacturers  
 Polishers and finishers  
 Potters  
 Powder manufacturers  
 Printers  
 Produce and provision dealers  
 Professors  
 Publishers

Quarrymen  
  
 Rag collectors  
 Railroad men  
 Razor makers  
 Razor-strop makers  
 Refectory keepers  
 Refiners  
 Reporters  
 Riggers  
 Roofers and slaters  
 Rope and cord makers  
  
 Saddle and harness makers  
 Safe makers  
 Sail makers  
 Salaeratus makers  
 Salt makers  
 Sash and blind makers  
 Saw makers  
 Sawyers  
 Scale makers  
 Scourers  
 Screw makers  
 Sculptors  
 Servants  
 Sextons  
 Shingle makers  
 Ship carpenters  
 Shoe binders  
 Shoe-peg makers  
 Shot manufacturers  
 Showmen  
 Silk manufacturers  
 Soldiers  
 Spinners  
 Spoon manufacturers  
 Spring makers  
 Starch manufacturers  
 Stave makers  
 Steel manufacturers  
 Stencillers  
 Sterotypists  
 Stevedores  
 Stone and marble cutters  
 Storekeepers  
 Stove makers  
 Straw workers  
 Students  
 Sugar manufacturers  
 Surgeons  
  
 Surgical instrument makers

Surveyors  
 Suspender makers  
  
 Tailors  
 Tanners and curriers  
 Teachers  
 Teamsters  
 Telegraph operators  
 Tinsmith  
  
 Tobacconists and cigar makers  
 Tool makers  
 Toy men  
 Traders  
 Trimmers  
 Trunk makers  
 Turners  
 Turpentine makers  
 Type cutters  
 Type foundry  
  
 Umbrella manufacturers  
 Undertakers  
 United States and State officers  
  
 Varnish makers  
 Veterinarians  
 Vinegar makers  
  
 Wagon makers  
 Warpers  
 Watchmen  
 Watchmakers  
 Weavers  
 Whalebone workers  
 Wheelwrights  
 Whip makers  
 Whitewashers  
 White lead manufacturers  
 Whiting manufacturers  
 Wine makers  
 Wine and liquor dealers  
 Window-shade makers  
 Wire makers  
 Wire workers  
 Wood corders  
 Wood cutters  
 Wood dealers  
 Wooden ware manufacturers  
 Wool combers and carders  
 Wool dealers  
 Woolen manufacturers

# Appendix B: Final 1998 SOC occupational structure

## 11-0000 Management Occupations

- 11-1000 Top Executives
  - 11-1010 Chief Executives
    - 11-1011 Chief Executives
  - 11-1020 General and Operations Managers
    - 11-1021 General and Operations Managers
  - 11-1030 Legislators
    - 11-1031 Legislators
- 11-2000 Advertising, Marketing, Promotions, Public Relations, and Sales Managers
  - 11-2010 Advertising and Promotions Managers
    - 11-2011 Advertising and Promotions Managers
  - 11-2020 Marketing and Sales Managers
    - 11-2021 Marketing Managers
    - 11-2022 Sales Managers
  - 11-2030 Public Relations Managers
    - 11-2031 Public Relations Managers
- 11-3000 Operations Specialties Managers
  - 11-3010 Administrative Services Managers
    - 11-3011 Administrative Services Managers
  - 11-3020 Computer and Information Systems Managers
    - 11-3021 Computer and Information Systems Managers
  - 11-3030 Financial Managers
    - 11-3031 Financial Managers
  - 11-3040 Human Resources Managers
    - 11-3041 Compensation and Benefits Managers
    - 11-3042 Training and Development Managers
    - 11-3049 Human Resources Managers, All Other
  - 11-3050 Industrial Production Managers
    - 11-3051 Industrial Production Managers
  - 11-3060 Purchasing Managers
    - 11-3061 Purchasing Managers
  - 11-3070 Transportation, Storage, and Distribution Managers
    - 11-3071 Transportation, Storage, and Distribution Managers
- 11-9000 Other Management Occupations
  - 11-9010 Agricultural Managers
    - 11-9011 Farm, Ranch, and Other Agricultural Managers
    - 11-9012 Farmers and Ranchers
  - 11-9020 Construction Managers
    - 11-9021 Construction Managers
  - 11-9030 Education Administrators
    - 11-9031 Education Administrators, Preschool and Child Care Center/Program
    - 11-9032 Education Administrators, Elementary and Secondary School
    - 11-9033 Education Administrators, Postsecondary
    - 11-9039 Education Administrators, All Other
  - 11-9040 Engineering Managers
    - 11-9041 Engineering Managers
  - 11-9050 Food Service Managers
    - 11-9051 Food Service Managers
  - 11-9060 Funeral Directors
    - 11-9061 Funeral Directors
  - 11-9070 Gaming Managers
    - 11-9071 Gaming Managers

- 11-9080 Lodging Managers
  - 11-9081 Lodging Managers
- 11-9110 Medical and Health Services Managers
  - 11-9111 Medical and Health Services Managers
- 11-9120 Natural Sciences Managers
  - 11-9121 Natural Sciences Managers
- 11-9130 Postmasters and Mail Superintendents
  - 11-9131 Postmasters and Mail Superintendents
- 11-9140 Property, Real Estate, and Community Association Managers
  - 11-9141 Property, Real Estate, and Community Association Managers
- 11-9150 Social and Community Service Managers
  - 11-9151 Social and Community Service Managers
- 11-9190 Miscellaneous Managers
  - 11-9199 Managers, All Other

## 13-0000 Business and Financial Operations Occupations

### 13-1000 Business Operations Specialists

- 13-1010 Agents and Business Managers of Artists, Performers, and Athletes
  - 13-1011 Agents and Business Managers of Artists, Performers, and Athletes
- 13-1020 Buyers and Purchasing Agents
  - 13-1021 Purchasing Agents and Buyers, Farm Products
  - 13-1022 Wholesale and Retail Buyers, Except Farm Products
  - 13-1023 Purchasing Agents, Except Wholesale, Retail, and Farm Products
- 13-1030 Claims Adjusters, Appraisers, Examiners, and Investigators
  - 13-1031 Claims Adjusters, Examiners, and Investigators
  - 13-1032 Insurance Appraisers, Auto Damage
- 13-1040 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
  - 13-1041 Compliance Officers, Except Agriculture, Construction, Health and Safety, and Transportation
- 13-1050 Cost Estimators
  - 13-1051 Cost Estimators
- 13-1060 Emergency Management Specialists
  - 13-1061 Emergency Management Specialists
- 13-1070 Human Resources, Training, and Labor Relations Specialists
  - 13-1071 Employment, Recruitment, and Placement Specialists
  - 13-1072 Compensation, Benefits, and Job Analysis Specialists
  - 13-1073 Training and Development Specialists
- 13-1079 Human Resources, Training, and Labor Relations Specialists, All Other
- 13-1080 Logisticians
  - 13-1081 Logisticians
- 13-1110 Management Analysts
  - 13-1111 Management Analysts
- 13-1120 Meeting and Convention Planners
  - 13-1121 Meeting and Convention Planners

- 13–1190 Miscellaneous Business Operations Specialists
- 13–1199 Business Operations Specialists, All Other

**13–2000 Financial Specialists**

- 13–2010 Accountants and Auditors
  - 13–2011 Accountants and Auditors
- 13–2020 Appraisers and Assessors of Real Estate
  - 13–2021 Appraisers and Assessors of Real Estate
- 13–2030 Budget Analysts
  - 13–2031 Budget Analysts
- 13–2040 Credit Analysts
  - 13–2041 Credit Analysts
- 13–2050 Financial Analysts and Advisors
  - 13–2051 Financial Analysts
  - 13–2052 Personal Financial Advisors
  - 13–2053 Insurance Underwriters
- 13–2060 Financial Examiners
  - 13–2061 Financial Examiners
- 13–2070 Loan Counselors and Officers
  - 13–2071 Loan Counselors
  - 13–2072 Loan Officers
- 13–2080 Tax Examiners, Collectors, Preparers, and Revenue Agents
  - 13–2081 Tax Examiners, Collectors, and Revenue Agents
  - 13–2082 Tax Preparers
- 13–2090 Miscellaneous Financial Specialists
  - 13–2099 Financial Specialists, All Other

**15–0000 Computer and Mathematical Occupations**

**15–1000 Computer Specialists**

- 15–1010 Computer and Information Scientists, Research
  - 15–1011 Computer and Information Scientists, Research
- 15–1020 Computer Programmers
  - 15–1021 Computer Programmers
- 15–1030 Computer Software Engineers
  - 15–1031 Computer Software Engineers, Applications
  - 15–1032 Computer Software Engineers, Systems Software
- 15–1040 Computer Support Specialists
  - 15–1041 Computer Support Specialists
- 15–1050 Computer Systems Analysts
  - 15–1051 Computer Systems Analysts
- 15–1060 Database Administrators
  - 15–1061 Database Administrators
- 15–1070 Network and Computer Systems Administrators
  - 15–1071 Network and Computer Systems Administrators
- 15–1080 Network Systems and Data Communications Analysts
  - 15–1081 Network Systems and Data Communications Analysts
- 15–1090 Miscellaneous Computer Specialists
  - 15–1099 Computer Specialists, All Other

**15–2000 Mathematical Scientists**

- 15–2010 Actuaries
  - 15–2011 Actuaries
- 15–2020 Mathematicians
  - 15–2021 Mathematicians
- 15–2030 Operations Research Analysts
  - 15–2031 Operations Research Analysts
- 15–2040 Statisticians

- 15–2041 Statisticians
- 15–2090 Miscellaneous Mathematical Scientists
- 15–2099 Mathematical Scientists, All Other

**15–3000 Mathematical Technicians**

- 15–3010 Mathematical Technicians
- 15–3011 Mathematical Technicians

**17–0000 Architecture and Engineering Occupations**

**17–1000 Architects, Surveyors, and Cartographers**

- 17–1010 Architects, Except Naval
  - 17–1011 Architects, Except Landscape and Naval
  - 17–1012 Landscape Architects
- 17–1020 Surveyors, Cartographers, and Photogrammetrists
  - 17–1021 Cartographers and Photogrammetrists
  - 17–1022 Surveyors

**17–2000 Engineers**

- 17–2010 Aerospace Engineers
  - 17–2011 Aerospace Engineers
- 17–2020 Agricultural Engineers
  - 17–2021 Agricultural Engineers
- 17–2030 Biomedical Engineers
  - 17–2031 Biomedical Engineers
- 17–2040 Chemical Engineers
  - 17–2041 Chemical Engineers
- 17–2050 Civil Engineers
  - 17–2051 Civil Engineers
- 17–2060 Computer Hardware Engineers
  - 17–2061 Computer Hardware Engineers
- 17–2070 Electrical and Electronics Engineers
  - 17–2071 Electrical Engineers
  - 17–2072 Electronics Engineers, Except Computer
- 17–2080 Environmental Engineers
  - 17–2081 Environmental Engineers
- 17–2110 Industrial Engineers, Including Health and Safety
  - 17–2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
  - 17–2112 Industrial Engineers
- 17–2120 Marine Engineers and Naval Architects
  - 17–2121 Marine Engineers and Naval Architects
- 17–2130 Materials Engineers
  - 17–2131 Materials Engineers
- 17–2140 Mechanical Engineers
  - 17–2141 Mechanical Engineers
- 17–2150 Mining and Geological Engineers, Including Mining Safety Engineers
  - 17–2151 Mining and Geological Engineers, Including Mining Safety Engineers
- 17–2160 Nuclear Engineers
  - 17–2161 Nuclear Engineers
- 17–2170 Petroleum Engineers
  - 17–2171 Petroleum Engineers
- 17–2190 Miscellaneous Engineers
  - 17–2199 Engineers, All Other

**17–3000 Drafters, Engineering, and Mapping Technicians**

- 17–3010 Drafters
  - 17–3011 Architectural and Civil Drafters
  - 17–3012 Electrical and Electronics Drafters
  - 17–3013 Mechanical Drafters
  - 17–3019 Drafters, All Other
- 17–3020 Engineering Technicians, Except Drafters
  - 17–3021 Aerospace Engineering and Operations Technicians

- 17-3022 Civil Engineering Technicians
- 17-3023 Electrical and Electronic Engineering Technicians
- 17-3024 Electro-Mechanical Technicians
- 17-3025 Environmental Engineering Technicians
- 17-3026 Industrial Engineering Technicians
- 17-3027 Mechanical Engineering Technicians
- 17-3029 Engineering Technicians, Except Drafters, All Other
- 17-3030 Surveying and Mapping Technicians
- 17-3031 Surveying and Mapping Technicians

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

**19-1000 Life Scientists**

- 19-1010 Agricultural and Food Scientists
- 19-1011 Animal Scientists
- 19-1012 Food Scientists and Technologists
- 19-1013 Soil and Plant Scientists
- 19-1020 Biological Scientists
- 19-1021 Biochemists and Biophysicists
- 19-1022 Microbiologists
- 19-1023 Zoologists and Wildlife Biologists
- 19-1029 Biological Scientists, All Other
- 19-1030 Conservation Scientists and Foresters
- 19-1031 Conservation Scientists
- 19-1032 Foresters
- 19-1040 Medical Scientists
- 19-1041 Epidemiologists
- 19-1042 Medical Scientists, Except Epidemiologists
- 19-1090 Miscellaneous Life Scientists
- 19-1099 Life Scientists, All Other

**19-2000 Physical Scientists**

- 19-2010 Astronomers and Physicists
- 19-2011 Astronomers
- 19-2012 Physicists
- 19-2020 Atmospheric and Space Scientists
- 19-2021 Atmospheric and Space Scientists
- 19-2030 Chemists and Materials Scientists
- 19-2031 Chemists
- 19-2032 Materials Scientists
- 19-2040 Environmental Scientists and Geoscientists
- 19-2041 Environmental Scientists and Specialists, Including Health
- 19-2042 Geoscientists, Except Hydrologists and Geographers
- 19-2043 Hydrologists
- 19-2090 Miscellaneous Physical Scientists
- 19-2099 Physical Scientists, All Other

**19-3000 Social Scientists and Related Workers**

- 19-3010 Economists
- 19-3011 Economists
- 19-3020 Market and Survey Researchers
- 19-3021 Market Research Analysts
- 19-3022 Survey Researchers
- 19-3030 Psychologists
- 19-3031 Clinical, Counseling, and School Psychologists
- 19-3032 Industrial-Organizational Psychologists
- 19-3039 Psychologists, All Other
- 19-3040 Sociologists
- 19-3041 Sociologists
- 19-3050 Urban and Regional Planners

- 19-3051 Urban and Regional Planners
- 19-3090 Miscellaneous Social Scientists and Related Workers
- 19-3091 Anthropologists and Archeologists
- 19-3092 Geographers
- 19-3093 Historians
- 19-3094 Political Scientists
- 19-3099 Social Scientists and Related Workers, All Other

**19-4000 Life, Physical, and Social Science Technicians**

- 19-4010 Agricultural and Food Science Technicians
- 19-4011 Agricultural and Food Science Technicians
- 19-4020 Biological Technicians
- 19-4021 Biological Technicians
- 19-4030 Chemical Technicians
- 19-4031 Chemical Technicians
- 19-4040 Geological and Petroleum Technicians
- 19-4041 Geological and Petroleum Technicians
- 19-4050 Nuclear Technicians
- 19-4051 Nuclear Technicians
- 19-4060 Social Science Research Assistants
- 19-4061 Social Science Research Assistants
- 19-4090 Miscellaneous Life, Physical, and Social Science Technicians
- 19-4091 Environmental Science and Protection Technicians, Including Health
- 19-4092 Forensic Science Technicians
- 19-4093 Forest and Conservation Technicians
- 19-4099 Life, Physical, and Social Science Technicians, All Other

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

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

- 21-1010 Counselors
- 21-1011 Substance Abuse and Behavioral Disorder Counselors
- 21-1012 Educational, Vocational, and School Counselors
- 21-1013 Marriage and Family Therapists
- 21-1014 Mental Health Counselors
- 21-1015 Rehabilitation Counselors
- 21-1019 Counselors, All Other
- 21-1020 Social Workers
- 21-1021 Child, Family, and School Social Workers
- 21-1022 Medical and Public Health Social Workers
- 21-1023 Mental Health and Substance Abuse Social Workers
- 21-1029 Social Workers, All Other
- 21-1090 Miscellaneous Community and Social Service Specialists
- 21-1091 Health Educators
- 21-1092 Probation Officers and Correctional Treatment Specialists
- 21-1093 Social and Human Service Assistants
- 21-1099 Community and Social Service Specialists, All Other

**21-2000 Religious Workers**

- 21-2010 Clergy
- 21-2011 Clergy
- 21-2020 Directors, Religious Activities and Education

- 21–2021 Directors, Religious Activities and Education
- 21–2090 Miscellaneous Religious Workers
- 21–2099 Religious Workers, All Other

**23–0000 Legal Occupations**

**23–1000 Lawyers, Judges, and Related Workers**

- 23–1010 Lawyers
- 23–1011 Lawyers
- 23–1020 Judges, Magistrates, and Other Judicial Workers
- 23–1021 Administrative Law Judges, Adjudicators, and Hearing Officers
- 23–1022 Arbitrators, Mediators, and Conciliators
- 23–1023 Judges, Magistrate Judges, and Magistrates

**23–2000 Legal Support Workers**

- 23–2010 Paralegals and Legal Assistants
- 23–2011 Paralegals and Legal Assistants
- 23–2090 Miscellaneous Legal Support Workers
- 23–2091 Court Reporters
- 23–2092 Law Clerks
- 23–2093 Title Examiners, Abstractors, and Searchers
- 23–2099 Legal Support Workers, All Other

**25–0000 Education, Training, and Library Occupations**

**25–1000 Postsecondary Teachers**

- 25–1010 Business Teachers, Postsecondary
- 25–1011 Business Teachers, Postsecondary
- 25–1020 Math and Computer Teachers, Postsecondary
- 25–1021 Computer Science Teachers, Postsecondary
- 25–1022 Mathematical Science Teachers, Postsecondary
- 25–1030 Engineering and Architecture Teachers, Postsecondary
- 25–1031 Architecture Teachers, Postsecondary
- 25–1032 Engineering Teachers, Postsecondary
- 25–1040 Life Sciences Teachers, Postsecondary
- 25–1041 Agricultural Sciences Teachers, Postsecondary
- 25–1042 Biological Science Teachers, Postsecondary
- 25–1043 Forestry and Conservation Science Teachers, Postsecondary
- 25–1050 Physical Sciences Teachers, Postsecondary
- 25–1051 Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary
- 25–1052 Chemistry Teachers, Postsecondary
- 25–1053 Environmental Science Teachers, Postsecondary
- 25–1054 Physics Teachers, Postsecondary
- 25–1060 Social Sciences Teachers, Postsecondary
- 25–1061 Anthropology and Archeology Teachers, Postsecondary
- 25–1062 Area, Ethnic, and Cultural Studies Teachers, Postsecondary
- 25–1063 Economics Teachers, Postsecondary
- 25–1064 Geography Teachers, Postsecondary
- 25–1065 Political Science Teachers, Postsecondary
- 25–1066 Psychology Teachers, Postsecondary
- 25–1067 Sociology Teachers, Postsecondary
- 25–1069 Social Sciences Teachers, Postsecondary, All Other

- 25–1070 Health Teachers, Postsecondary
- 25–1071 Health Specialties Teachers, Postsecondary
- 25–1072 Nursing Instructors and Teachers, Postsecondary
- 25–1080 Education and Library Science Teachers, Postsecondary
- 25–1081 Education Teachers, Postsecondary
- 25–1082 Library Science Teachers, Postsecondary
- 25–1110 Law, Criminal Justice, and Social Work Teachers, Postsecondary
- 25–1111 Criminal Justice and Law Enforcement Teachers, Postsecondary
- 25–1112 Law Teachers, Postsecondary
- 25–1113 Social Work Teachers, Postsecondary
- 25–1120 Arts, Communications, and Humanities Teachers, Postsecondary
- 25–1121 Art, Drama, and Music Teachers, Postsecondary
- 25–1122 Communications Teachers, Postsecondary
- 25–1123 English Language and Literature Teachers, Postsecondary
- 25–1124 Foreign Language and Literature Teachers, Postsecondary
- 25–1125 History Teachers, Postsecondary
- 25–1126 Philosophy and Religion Teachers, Postsecondary
- 25–1190 Miscellaneous Postsecondary Teachers
- 25–1191 Graduate Teaching Assistants
- 25–1192 Home Economics Teachers, Postsecondary
- 25–1193 Recreation and Fitness Studies Teachers, Postsecondary
- 25–1194 Vocational Education Teachers, Postsecondary
- 25–1199 Postsecondary Teachers, All Other

**25–2000 Teachers, Primary, Secondary, and Special Education**

- 25–2010 Preschool and Kindergarten Teachers
- 25–2011 Preschool Teachers, Except Special Education
- 25–2012 Kindergarten Teachers, Except Special Education
- 25–2020 Elementary and Middle School Teachers
- 25–2021 Elementary School Teachers, Except Special Education
- 25–2022 Middle School Teachers, Except Special and Vocational Education
- 25–2023 Middle School Vocational Education Teachers
- 25–2030 Secondary School Teachers
- 25–2031 Secondary School Teachers, Except Special and Vocational Education
- 25–2032 Secondary School, Vocational Education Teachers
- 25–2040 Special Education Teachers
- 25–2041 Special Education Teachers, Preschool, Kindergarten, and Elementary School
- 25–2042 Special Education Teachers, Middle School
- 25–2043 Special Education Teachers, Secondary School

**25–3000 Other Teachers and Instructors**

- 25–3010 Adult Literacy, Remedial Education, and GED



- Teachers and Instructors
- 25–3011 Adult Literacy, Remedial Education, and GED Teachers and Instructors
- 25–3020 Self-Enrichment Education Teachers
- 25–3021 Self-Enrichment Education Teachers
- 25–3090 Miscellaneous Teachers and Instructors
- 25–3099 Teachers and Instructors, All Other

**25–4000 Librarians, Curators, and Archivists**

- 25–4010 Archivists, Curators, and Museum Technicians
- 25–4011 Archivists
- 25–4012 Curators
- 25–4013 Museum Technicians and Conservators
- 25–4020 Librarians
- 25–4021 Librarians
- 25–4030 Library Technicians
- 25–4031 Library Technicians

**25–9000 Other Education, Training, and Library Occupations**

- 25–9010 Audio-Visual Collections Specialists
- 25–9011 Audio-Visual Collections Specialists
- 25–9020 Farm and Home Management Advisors
- 25–9021 Farm and Home Management Advisors
- 25–9030 Instructional Coordinators
- 25–9031 Instructional Coordinators
- 25–9040 Teacher Assistants
- 25–9041 Teacher Assistants
- 25–9090 Miscellaneous Education, Training, and Library Workers
- 25–9099 Education, Training, and Library Workers, All Other

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

**27–1000 Art and Design Workers**

- 27–1010 Artists and Related Workers
- 27–1011 Art Directors
- 27–1012 Craft Artists
- 27–1013 Fine Artists, Including Painters, Sculptors, and Illustrators
- 27–1014 Multi-Media Artists and Animators
- 27–1019 Artists and Related Workers, All Other
- 27–1020 Designers
- 27–1021 Commercial and Industrial Designers
- 27–1022 Fashion Designers
- 27–1023 Floral Designers
- 27–1024 Graphic Designers
- 27–1025 Interior Designers
- 27–1026 Merchandise Displayers and Window Trimmers
- 27–1027 Set and Exhibit Designers
- 27–1029 Designers, All Other

**27–2000 Entertainers and Performers, Sports and Related Workers**

- 27–2010 Actors, Producers, and Directors
- 27–2011 Actors
- 27–2012 Producers and Directors
- 27–2020 Athletes, Coaches, Umpires, and Related Workers
- 27–2021 Athletes and Sports Competitors
- 27–2022 Coaches and Scouts
- 27–2023 Umpires, Referees, and Other Sports Officials
- 27–2030 Dancers and Choreographers

- 27–2031 Dancers
- 27–2032 Choreographers
- 27–2040 Musicians, Singers, and Related Workers
- 27–2041 Music Directors and Composers
- 27–2042 Musicians and Singers
- 27–2090 Miscellaneous Entertainers and Performers, Sports and Related Workers
- 27–2099 Entertainers and Performers, Sports and Related Workers, All Other

**27–3000 Media and Communication Workers**

- 27–3010 Announcers
- 27–3011 Radio and Television Announcers
- 27–3012 Public Address System and Other Announcers
- 27–3020 News Analysts, Reporters and Correspondents
- 27–3021 Broadcast News Analysts
- 27–3022 Reporters and Correspondents
- 27–3030 Public Relations Specialists
- 27–3031 Public Relations Specialists
- 27–3040 Writers and Editors
- 27–3041 Editors
- 27–3042 Technical Writers
- 27–3043 Writers and Authors
- 27–3090 Miscellaneous Media and Communication Workers
- 27–3091 Interpreters and Translators
- 27–3099 Media and Communication Workers, All Other

**27–4000 Media and Communication Equipment Workers**

- 27–4010 Broadcast and Sound Engineering Technicians and Radio Operators
- 27–4011 Audio and Video Equipment Technicians
- 27–4012 Broadcast Technicians
- 27–4013 Radio Operators
- 27–4014 Sound Engineering Technicians
- 27–4020 Photographers
- 27–4021 Photographers
- 27–4030 Television, Video, and Motion Picture Camera Operators and Editors
- 27–4031 Camera Operators, Television, Video, and Motion Picture
- 27–4032 Film and Video Editors
- 27–4090 Miscellaneous Media and Communication Equipment Workers
- 27–4099 Media and Communication Equipment Workers, All Other

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

**29–1000 Health Diagnosing and Treating Practitioners**

- 29–1010 Chiropractors
- 29–1011 Chiropractors
- 29–1020 Dentists
- 29–1021 Dentists, General
- 29–1022 Oral and Maxillofacial Surgeons
- 29–1023 Orthodontists
- 29–1024 Prosthodontists
- 29–1029 Dentists, All Other Specialists
- 29–1030 Dietitians and Nutritionists
- 29–1031 Dietitians and Nutritionists
- 29–1040 Optometrists
- 29–1041 Optometrists

- 29–1050 Pharmacists
  - 29–1051 Pharmacists
- 29–1060 Physicians and Surgeons
  - 29–1061 Anesthesiologists
  - 29–1062 Family and General Practitioners
  - 29–1063 Internists, General
  - 29–1064 Obstetricians and Gynecologists
  - 29–1065 Pediatricians, General
  - 29–1066 Psychiatrists
  - 29–1067 Surgeons
  - 29–1069 Physicians and Surgeons, All Other
- 29–1070 Physician Assistants
  - 29–1071 Physician Assistants
- 29–1080 Podiatrists
  - 29–1081 Podiatrists
- 29–1110 Registered Nurses
  - 29–1111 Registered Nurses
- 29–1120 Therapists
  - 29–1121 Audiologists
  - 29–1122 Occupational Therapists
  - 29–1123 Physical Therapists
  - 29–1124 Radiation Therapists
  - 29–1125 Recreational Therapists
  - 29–1126 Respiratory Therapists
  - 29–1127 Speech-Language Pathologists
  - 29–1129 Therapists, All Other
- 29–1130 Veterinarians
  - 29–1131 Veterinarians
- 29–1190 Miscellaneous Health Diagnosing and Treating Practitioners
  - 29–1199 Health Diagnosing and Treating Practitioners, All Other
- 29–2000 Health Technologists and Technicians**
  - 29–2010 Clinical Laboratory Technologists and Technicians
    - 29–2011 Medical and Clinical Laboratory Technologists
    - 29–2012 Medical and Clinical Laboratory Technicians
  - 29–2020 Dental Hygienists
    - 29–2021 Dental Hygienists
  - 29–2030 Diagnostic Related Technologists and Technicians
    - 29–2031 Cardiovascular Technologists and Technicians
    - 29–2032 Diagnostic Medical Sonographers
    - 29–2033 Nuclear Medicine Technologists
    - 29–2034 Radiologic Technologists and Technicians
  - 29–2040 Emergency Medical Technicians and Paramedics
    - 29–2041 Emergency Medical Technicians and Paramedics
  - 29–2050 Health Diagnosing and Treating Practitioner Support Technicians
    - 29–2051 Dietetic Technicians
    - 29–2052 Pharmacy Technicians
    - 29–2053 Psychiatric Technicians
    - 29–2054 Respiratory Therapy Technicians
    - 29–2055 Surgical Technologists
    - 29–2056 Veterinary Technologists and Technicians
  - 29–2060 Licensed Practical and Licensed Vocational Nurses
    - 29–2061 Licensed Practical and Licensed Vocational Nurses
- 29–2070 Medical Records and Health Information Technicians
  - 29–2071 Medical Records and Health Information Technicians
- 29–2080 Opticians, Dispensing
  - 29–2081 Opticians, Dispensing
- 29–2090 Miscellaneous Health Technologists and Technicians
  - 29–2091 Orthotists and Prosthetists
  - 29–2099 Health Technologists and Technicians, All Other
- 29–9000 Other Healthcare Practitioners and Technical Occupations**
  - 29–9010 Occupational Health and Safety Specialists and Technicians
    - 29–9011 Occupational Health and Safety Specialists
    - 29–9012 Occupational Health and Safety Technicians
  - 29–9090 Miscellaneous Health Practitioners and Technical Workers
    - 29–9091 Athletic Trainers
    - 29–9099 Healthcare Practitioners and Technical Workers, All Other
- 31–0000 Healthcare Support Occupations**
  - 31–1000 Nursing, Psychiatric, and Home Health Aides**
    - 31–1010 Nursing, Psychiatric, and Home Health Aides
    - 31–1011 Home Health Aides
    - 31–1012 Nursing Aides, Orderlies, and Attendants
    - 31–1013 Psychiatric Aides
  - 31–2000 Occupational and Physical Therapist Assistants and Aides**
    - 31–2010 Occupational Therapist Assistants and Aides
    - 31–2011 Occupational Therapist Assistants
    - 31–2012 Occupational Therapist Aides
    - 31–2020 Physical Therapist Assistants and Aides
    - 31–2021 Physical Therapist Assistants
    - 31–2022 Physical Therapist Aides
  - 31–9000 Other Healthcare Support Occupations**
    - 31–9010 Massage Therapists
      - 31–9011 Massage Therapists
    - 31–9090 Miscellaneous Healthcare Support Occupations
      - 31–9091 Dental Assistants
      - 31–9092 Medical Assistants
      - 31–9093 Medical Equipment Preparers
      - 31–9094 Medical Transcriptionists
      - 31–9095 Pharmacy Aides
      - 31–9096 Veterinary Assistants and Laboratory Animal Caretakers
      - 31–9099 Healthcare Support Workers, All Other
- 33–0000 Protective Service Occupations**
  - 33–1000 Supervisors, Protective Service Workers**
    - 33–1010 First-Line Supervisors/Managers, Law Enforcement Workers
    - 33–1011 First-Line Supervisors/Managers of Correctional Officers
    - 33–1012 First-Line Supervisors/Managers of Police and Detectives
    - 33–1020 First-Line Supervisors/Managers, Fire Fighting and Prevention Workers
    - 33–1021 First-Line Supervisors/Managers of Fire Fighting and Prevention Workers
    - 33–1090 Miscellaneous Supervisors, Protective Service

- Workers
  - 33-1099 Supervisors, Protective Service Workers, All Other
- 33-2000 Fire Fighting and Prevention Workers**
  - 33-2010 Fire Fighters
  - 33-2011 Fire Fighters
  - 33-2020 Fire Inspectors
  - 33-2021 Fire Inspectors and Investigators
  - 33-2022 Forest Fire Inspectors and Prevention Specialists
- 33-3000 Law Enforcement Workers**
  - 33-3010 Bailiffs, Correctional Officers, and Jailers
  - 33-3011 Bailiffs
  - 33-3012 Correctional Officers and Jailers
  - 33-3020 Detectives and Criminal Investigators
  - 33-3021 Detectives and Criminal Investigators
  - 33-3030 Fish and Game Wardens
  - 33-3031 Fish and Game Wardens
  - 33-3040 Parking Enforcement Workers
  - 33-3041 Parking Enforcement Workers
  - 33-3050 Police Officers
  - 33-3051 Police and Sheriff's Patrol Officers
  - 33-3052 Transit and Railroad Police
- 33-9000 Other Protective Service Workers**
  - 33-9010 Animal Control Workers
  - 33-9011 Animal Control Workers
  - 33-9020 Private Detectives and Investigators
  - 33-9021 Private Detectives and Investigators
  - 33-9030 Security Guards and Gaming Surveillance Officers
  - 33-9031 Gaming Surveillance Officers and Gaming Investigators
  - 33-9032 Security Guards
  - 33-9090 Miscellaneous Protective Service Workers
  - 33-9091 Crossing Guards
  - 33-9092 Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers
  - 33-9099 Protective Service Workers, All Other
- 35-0000 Food Preparation and Serving Related Occupations**
  - 35-1000 Supervisors, Food Preparation and Serving Workers**
    - 35-1010 First-Line Supervisors/Managers, Food Preparation and Serving Workers
    - 35-1011 Chefs and Head Cooks
    - 35-1012 First-Line Supervisors/Managers of Food Preparation and Serving Workers
  - 35-2000 Cooks and Food Preparation Workers**
    - 35-2010 Cooks
    - 35-2011 Cooks, Fast Food
    - 35-2012 Cooks, Institution and Cafeteria
    - 35-2013 Cooks, Private Household
    - 35-2014 Cooks, Restaurant
    - 35-2015 Cooks, Short Order
    - 35-2019 Cooks, All Other
    - 35-2020 Food Preparation Workers
    - 35-2021 Food Preparation Workers
  - 35-3000 Food and Beverage Serving Workers**
    - 35-3010 Bartenders
    - 35-3011 Bartenders
    - 35-3020 Fast Food and Counter Workers
    - 35-3021 Combined Food Preparation and Serving Workers, Including Fast Food
    - 35-3022 Counter Attendants, Cafeteria, Food Concession, and Coffee Shop
    - 35-3030 Waiters and Waitresses
    - 35-3031 Waiters and Waitresses
    - 35-3040 Food Servers, Nonrestaurant
    - 35-3041 Food Servers, Nonrestaurant
- 35-9000 Other Food Preparation and Serving Related Workers**
  - 35-9010 Dining Room and Cafeteria Attendants and Bartender Helpers
  - 35-9011 Dining Room and Cafeteria Attendants and Bartender Helpers
  - 35-9020 Dishwashers
  - 35-9021 Dishwashers
  - 35-9030 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop
  - 35-9031 Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop
  - 35-9090 Miscellaneous Food Preparation and Serving Related Workers
  - 35-9099 Food Preparation and Serving Related Workers, All Other
- 37-0000 Building and Grounds Cleaning and Maintenance Occupations**
  - 37-1000 Supervisors, Building and Grounds Cleaning and Maintenance Workers**
    - 37-1010 First-Line Supervisors/Managers, Building and Grounds Cleaning and Maintenance Workers
    - 37-1011 First-Line Supervisors/Managers of Housekeeping and Janitorial Workers
    - 37-1012 First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeeping Workers
  - 37-2000 Building Cleaning and Pest Control Workers**
    - 37-2010 Building Cleaning Workers
    - 37-2011 Janitors and Cleaners, Except Maids and Housekeeping Cleaners
    - 37-2012 Maids and Housekeeping Cleaners
    - 37-2019 Building Cleaning Workers, All Other
    - 37-2020 Pest Control Workers
    - 37-2021 Pest Control Workers
  - 37-3000 Grounds Maintenance Workers**
    - 37-3010 Grounds Maintenance Workers
    - 37-3011 Landscaping and Groundskeeping Workers
    - 37-3012 Pesticide Handlers, Sprayers, and Applicators, Vegetation
    - 37-3013 Tree Trimmers and Pruners
    - 37-3019 Grounds Maintenance Workers, All Other
- 39-0000 Personal Care and Service Occupations**
  - 39-1000 Supervisors, Personal Care and Service Workers**
    - 39-1010 First-Line Supervisors/Managers of Gaming Workers
    - 39-1011 Gaming Supervisors
    - 39-1012 Slot Key Persons
    - 39-1020 First-Line Supervisors/Managers of Personal Service Workers
    - 39-1021 First-Line Supervisors/Managers of Personal Service Workers
  - 39-2000 Animal Care and Service Workers**
    - 39-2010 Animal Trainers

- 39–2011 Animal Trainers
- 39–2020 Nonfarm Animal Caretakers
- 39–2021 Nonfarm Animal Caretakers
- 39–3000 Entertainment Attendants and Related Workers**
- 39–3010 Gaming Services Workers
- 39–3011 Gaming Dealers
- 39–3012 Gaming and Sports Book Writers and Runners
- 39–3019 Gaming Service Workers, All Other
- 39–3020 Motion Picture Projectionists
- 39–3021 Motion Picture Projectionists
- 39–3030 Ushers, Lobby Attendants, and Ticket Takers
- 39–3031 Ushers, Lobby Attendants, and Ticket Takers
- 39–3090 Miscellaneous Entertainment Attendants and Related Workers
- 39–3091 Amusement and Recreation Attendants
- 39–3092 Costume Attendants
- 39–3093 Locker Room, Coatroom, and Dressing Room Attendants
- 39–3099 Entertainment Attendants and Related Workers, All Other
- 39–4000 Funeral Service Workers**
- 39–4010 Embalmers
- 39–4011 Embalmers
- 39–4020 Funeral Attendants
- 39–4021 Funeral Attendants
- 39–5000 Personal Appearance Workers**
- 39–5010 Barbers and Cosmetologists
- 39–5011 Barbers
- 39–5012 Hairdressers, Hairstylists, and Cosmetologists
- 39–5090 Miscellaneous Personal Appearance Workers
- 39–5091 Makeup Artists, Theatrical and Performance
- 39–5092 Manicurists and Pedicurists
- 39–5093 Shampoos
- 39–5094 Skin Care Specialists
- 39–6000 Transportation, Tourism, and Lodging Attendants**
- 39–6010 Baggage Porters, Bellhops, and Concierges
- 39–6011 Baggage Porters and Bellhops
- 39–6012 Concierges
- 39–6020 Tour and Travel Guides
- 39–6021 Tour Guides and Escorts
- 39–6022 Travel Guides
- 39–6030 Transportation Attendants
- 39–6031 Flight Attendants
- 39–6032 Transportation Attendants, Except Flight Attendants and Baggage Porters
- 39–9000 Other Personal Care and Service Workers**
- 39–9010 Child Care Workers
- 39–9011 Child Care Workers
- 39–9020 Personal and Home Care Aides
- 39–9021 Personal and Home Care Aides
- 39–9030 Recreation and Fitness Workers
- 39–9031 Fitness Trainers and Aerobics Instructors
- 39–9032 Recreation Workers
- 39–9040 Residential Advisors
- 39–9041 Residential Advisors
- 39–9090 Miscellaneous Personal Care and Service Workers
- 39–9099 Personal Care and Service Workers, All Other

**41–0000 Sales and Related Occupations**

- 41–1000 Supervisors, Sales Workers**
- 41–1010 First-Line Supervisors/Managers, Sales Workers
- 41–1011 First-Line Supervisors/Managers of Retail Sales Workers
- 41–1012 First-Line Supervisors/Managers of Non-Retail Sales Workers
- 41–2000 Retail Sales Workers**
- 41–2010 Cashiers
- 41–2011 Cashiers
- 41–2012 Gaming Change Persons and Booth Cashiers
- 41–2020 Counter and Rental Clerks and Parts Salespersons
- 41–2021 Counter and Rental Clerks
- 41–2022 Parts Salespersons
- 41–2030 Retail Salespersons
- 41–2031 Retail Salespersons
- 41–3000 Sales Representatives, Services**
- 41–3010 Advertising Sales Agents
- 41–3011 Advertising Sales Agents
- 41–3020 Insurance Sales Agents
- 41–3021 Insurance Sales Agents
- 41–3030 Securities, Commodities, and Financial Services Sales Agents
- 41–3031 Securities, Commodities, and Financial Services Sales Agents
- 41–3040 Travel Agents
- 41–3041 Travel Agents
- 41–3090 Miscellaneous Sales Representatives, Services
- 41–3099 Sales Representatives, Services, All Other
- 41–4000 Sales Representatives, Wholesale and Manufacturing**
- 41–4010 Sales Representatives, Wholesale and Manufacturing
- 41–4011 Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products
- 41–4012 Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
- 41–9000 Other Sales and Related Workers**
- 41–9010 Models, Demonstrators, and Product Promoters
- 41–9011 Demonstrators and Product Promoters
- 41–9012 Models
- 41–9020 Real Estate Brokers and Sales Agents
- 41–9021 Real Estate Brokers
- 41–9022 Real Estate Sales Agents
- 41–9030 Sales Engineers
- 41–9031 Sales Engineers
- 41–9040 Telemarketers
- 41–9041 Telemarketers
- 41–9090 Miscellaneous Sales and Related Workers
- 41–9091 Door-To-Door Sales Workers, News and Street Vendors, and Related Workers
- 41–9099 Sales and Related Workers, All Other
- 43–0000 Office and Administrative Support Occupations**
- 43–1000 Supervisors, Office and Administrative Support Workers**
- 43–1010 First-Line Supervisors/Managers of Office and Administrative Support Workers
- 43–1011 First-Line Supervisors/Managers of Office and Administrative Support Workers
- 43–2000 Communications Equipment Operators**

- 43-2010 Switchboard Operators, Including Answering Service
- 43-2011 Switchboard Operators, Including Answering Service
- 43-2020 Telephone Operators
- 43-2021 Telephone Operators
- 43-2090 Miscellaneous Communications Equipment Operators
- 43-2099 Communications Equipment Operators, All Other
- 43-3000 Financial Clerks**
- 43-3010 Bill and Account Collectors
- 43-3011 Bill and Account Collectors
- 43-3020 Billing and Posting Clerks and Machine Operators
- 43-3021 Billing and Posting Clerks and Machine Operators
- 43-3030 Bookkeeping, Accounting, and Auditing Clerks
- 43-3031 Bookkeeping, Accounting, and Auditing Clerks
- 43-3040 Gaming Cage Workers
- 43-3041 Gaming Cage Workers
- 43-3050 Payroll and Timekeeping Clerks
- 43-3051 Payroll and Timekeeping Clerks
- 43-3060 Procurement Clerks
- 43-3061 Procurement Clerks
- 43-3070 Tellers
- 43-3071 Tellers
- 43-4000 Information and Record Clerks**
- 43-4010 Brokerage Clerks
- 43-4011 Brokerage Clerks
- 43-4020 Correspondence Clerks
- 43-4021 Correspondence Clerks
- 43-4030 Court, Municipal, and License Clerks
- 43-4031 Court, Municipal, and License Clerks
- 43-4040 Credit Authorizers, Checkers, and Clerks
- 43-4041 Credit Authorizers, Checkers, and Clerks
- 43-4050 Customer Service Representatives
- 43-4051 Customer Service Representatives
- 43-4060 Eligibility Interviewers, Government Programs
- 43-4061 Eligibility Interviewers, Government Programs
- 43-4070 File Clerks
- 43-4071 File Clerks
- 43-4080 Hotel, Motel, and Resort Desk Clerks
- 43-4081 Hotel, Motel, and Resort Desk Clerks
- 43-4110 Interviewers, Except Eligibility and Loan
- 43-4111 Interviewers, Except Eligibility and Loan
- 43-4120 Library Assistants, Clerical
- 43-4121 Library Assistants, Clerical
- 43-4130 Loan Interviewers and Clerks
- 43-4131 Loan Interviewers and Clerks
- 43-4140 New Accounts Clerks
- 43-4141 New Accounts Clerks
- 43-4150 Order Clerks
- 43-4151 Order Clerks
- 43-4160 Human Resources Assistants, Except Payroll and Timekeeping
- 43-4161 Human Resources Assistants, Except Payroll and Timekeeping
- 43-4170 Receptionists and Information Clerks
- 43-4171 Receptionists and Information Clerks
- 43-4180 Reservation and Transportation Ticket Agents and Travel Clerks
- 43-4181 Reservation and Transportation Ticket Agents and Travel Clerks
- 43-4190 Miscellaneous Information and Record Clerks
- 43-4199 Information and Record Clerks, All Other
- 43-5000 Material Recording, Scheduling, Dispatching, and Distributing Workers**
- 43-5010 Cargo and Freight Agents
- 43-5011 Cargo and Freight Agents
- 43-5020 Couriers and Messengers
- 43-5021 Couriers and Messengers
- 43-5030 Dispatchers
- 43-5031 Police, Fire, and Ambulance Dispatchers
- 43-5032 Dispatchers, Except Police, Fire, and Ambulance
- 43-5040 Meter Readers, Utilities
- 43-5041 Meter Readers, Utilities
- 43-5050 Postal Service Workers
- 43-5051 Postal Service Clerks
- 43-5052 Postal Service Mail Carriers
- 43-5053 Postal Service Mail Sorters, Processors, and Processing Machine Operators
- 43-5060 Production, Planning, and Expediting Clerks
- 43-5061 Production, Planning, and Expediting Clerks
- 43-5070 Shipping, Receiving, and Traffic Clerks
- 43-5071 Shipping, Receiving, and Traffic Clerks
- 43-5080 Stock Clerks and Order Fillers
- 43-5081 Stock Clerks and Order Fillers
- 43-5110 Weighers, Measurers, Checkers, and Samplers, Recordkeeping
- 43-5111 Weighers, Measurers, Checkers, and Samplers, Recordkeeping
- 43-6000 Secretaries and Administrative Assistants**
- 43-6010 Secretaries and Administrative Assistants
- 43-6011 Executive Secretaries and Administrative Assistants
- 43-6012 Legal Secretaries
- 43-6013 Medical Secretaries
- 43-6014 Secretaries, Except Legal, Medical, and Executive
- 43-9000 Other Office and Administrative Support Workers**
- 43-9010 Computer Operators
- 43-9011 Computer Operators
- 43-9020 Data Entry and Information Processing Workers
- 43-9021 Data Entry Keyers
- 43-9022 Word Processors and Typists
- 43-9030 Desktop Publishers
- 43-9031 Desktop Publishers
- 43-9040 Insurance Claims and Policy Processing Clerks
- 43-9041 Insurance Claims and Policy Processing Clerks
- 43-9050 Mail Clerks and Mail Machine Operators, Except Postal Service
- 43-9051 Mail Clerks and Mail Machine Operators, Except Postal Service
- 43-9060 Office Clerks, General
- 43-9061 Office Clerks, General
- 43-9070 Office Machine Operators, Except Computer
- 43-9071 Office Machine Operators, Except Computer
- 43-9080 Proofreaders and Copy Markers
- 43-9081 Proofreaders and Copy Markers
- 43-9110 Statistical Assistants
- 43-9111 Statistical Assistants

- 43-9190 Miscellaneous Office and Administrative Support Workers
- 43-9199 Office and Administrative Support Workers, All Other
- 45-0000 Farming, Fishing, and Forestry Occupations**
- 45-1000 Supervisors, Farming, Fishing, and Forestry Workers**
- 45-1010 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
- 45-1011 First-Line Supervisors/Managers of Farming, Fishing, and Forestry Workers
- 45-2000 Agricultural Workers**
- 45-2010 Agricultural Inspectors
- 45-2011 Agricultural Inspectors
- 45-2020 Animal Breeders
- 45-2021 Animal Breeders
- 45-2030 Farm Labor Contractors
- 45-2031 Farm Labor Contractors
- 45-2040 Graders and Sorters, Agricultural Products
- 45-2041 Graders and Sorters, Agricultural Products
- 45-2090 Miscellaneous Agricultural Workers
- 45-2091 Agricultural Equipment Operators
- 45-2092 Farmworkers and Laborers, Crop, Nursery, and Greenhouse
- 45-2093 Farmworkers, Farm and Ranch Animals
- 45-2099 Agricultural Workers, All Other
- 45-3000 Fishing and Hunting Workers**
- 45-3010 Fishers and Related Fishing Workers
- 45-3011 Fishers and Related Fishing Workers
- 45-3020 Hunters and Trappers
- 45-3021 Hunters and Trappers
- 45-4000 Forest, Conservation, and Logging Workers**
- 45-4010 Forest and Conservation Workers
- 45-4011 Forest and Conservation Workers
- 45-4020 Logging Workers
- 45-4021 Fallers
- 45-4022 Logging Equipment Operators
- 45-4023 Log Graders and Scalers
- 45-4029 Logging Workers, All Other
- 45-9000 Other Farming, Fishing, and Forestry Workers**
- 45-9090 Miscellaneous Farming, Fishing, and Forestry Workers
- 45-9099 Farming, Fishing, and Forestry Workers, All Other
- 47-0000 Construction and Extraction Occupations**
- 47-1000 Supervisors, Construction and Extraction Workers**
- 47-1010 First-Line Supervisors/Managers of Construction Trades and Extraction Workers
- 47-1011 First-Line Supervisors/Managers of Construction Trades and Extraction Workers
- 47-2000 Construction Trades Workers**
- 47-2010 Boilermakers
- 47-2011 Boilermakers
- 47-2020 Brickmasons, Blockmasons, and Stonemasons
- 47-2021 Brickmasons and Blockmasons
- 47-2022 Stonemasons
- 47-2030 Carpenters
- 47-2031 Carpenters
- 47-2040 Carpet, Floor, and Tile Installers and Finishers
- 47-2041 Carpet Installers
- 47-2042 Floor Layers, Except Carpet, Wood, and Hard Tiles
- 47-2043 Floor Sanders and Finishers
- 47-2044 Tile and Marble Setters
- 47-2050 Cement Masons, Concrete Finishers, and Terrazzo Workers
- 47-2051 Cement Masons and Concrete Finishers
- 47-2053 Terrazzo Workers and Finishers
- 47-2060 Construction Laborers
- 47-2061 Construction Laborers
- 47-2070 Construction Equipment Operators
- 47-2071 Paving, Surfacing, and Tamping Equipment Operators
- 47-2072 Pile-Driver Operators
- 47-2073 Operating Engineers and Other Construction Equipment Operators
- 47-2080 Drywall Installers, Ceiling Tile Installers, and Tapers
- 47-2081 Drywall and Ceiling Tile Installers
- 47-2082 Tapers
- 47-2110 Electricians
- 47-2111 Electricians
- 47-2120 Glaziers
- 47-2121 Glaziers
- 47-2130 Insulation Workers
- 47-2131 Insulation Workers, Floor, Ceiling, and Wall
- 47-2132 Insulation Workers, Mechanical
- 47-2140 Painters and Paperhangers
- 47-2141 Painters, Construction and Maintenance
- 47-2142 Paperhangers
- 47-2150 Pipelayers, Plumbers, Pipefitters, and Steamfitters
- 47-2151 Pipelayers
- 47-2152 Plumbers, Pipefitters, and Steamfitters
- 47-2160 Plasterers and Stucco Masons
- 47-2161 Plasterers and Stucco Masons
- 47-2170 Reinforcing Iron and Rebar Workers
- 47-2171 Reinforcing Iron and Rebar Workers
- 47-2180 Roofers
- 47-2181 Roofers
- 47-2210 Sheet Metal Workers
- 47-2211 Sheet Metal Workers
- 47-2220 Structural Iron and Steel Workers
- 47-2221 Structural Iron and Steel Workers
- 47-3000 Helpers, Construction Trades**
- 47-3010 Helpers, Construction Trades
- 47-3011 Helpers—Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters
- 47-3012 Helpers—Carpenters
- 47-3013 Helpers—Electricians
- 47-3014 Helpers—Painters, Paperhangers, Plasterers, and Stucco Masons
- 47-3015 Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters
- 47-3016 Helpers—Roofers
- 47-3019 Helpers, Construction Trades, All Other
- 47-4000 Other Construction and Related Workers**
- 47-4010 Construction and Building Inspectors
- 47-4011 Construction and Building Inspectors
- 47-4020 Elevator Installers and Repairers
- 47-4021 Elevator Installers and Repairers
- 47-4030 Fence Erectors
- 47-4031 Fence Erectors

- 47-4040 Hazardous Materials Removal Workers
- 47-4041 Hazardous Materials Removal Workers
- 47-4050 Highway Maintenance Workers
- 47-4051 Highway Maintenance Workers
- 47-4060 Rail-Track Laying and Maintenance Equipment Operators
- 47-4061 Rail-Track Laying and Maintenance Equipment Operators
- 47-4070 Septic Tank Servicers and Sewer Pipe Cleaners
- 47-4071 Septic Tank Servicers and Sewer Pipe Cleaners
- 47-4090 Miscellaneous Construction and Related Workers
- 47-4091 Segmental Pavers
- 47-4099 Construction and Related Workers, All Other

**47-5000 Extraction Workers**

- 47-5010 Derrick, Rotary Drill, and Service Unit Operators, Oil, Gas, and Mining
- 47-5011 Derrick Operators, Oil and Gas
- 47-5012 Rotary Drill Operators, Oil and Gas
- 47-5013 Service Unit Operators, Oil, Gas, and Mining
- 47-5020 Earth Drillers, Except Oil and Gas
- 47-5021 Earth Drillers, Except Oil and Gas
- 47-5030 Explosives Workers, Ordnance Handling Experts, and Blasters
- 47-5031 Explosives Workers, Ordnance Handling Experts, and Blasters
- 47-5040 Mining Machine Operators
- 47-5041 Continuous Mining Machine Operators
- 47-5042 Mine Cutting and Channeling Machine Operators
- 47-5049 Mining Machine Operators, All Other
- 47-5050 Rock Splitters, Quarry
- 47-5051 Rock Splitters, Quarry
- 47-5060 Roof Bolters, Mining
- 47-5061 Roof Bolters, Mining
- 47-5070 Roustabouts, Oil and Gas
- 47-5071 Roustabouts, Oil and Gas
- 47-5080 Helpers—Extraction Workers
- 47-5081 Helpers—Extraction Workers
- 47-5090 Miscellaneous Extraction Workers
- 47-5099 Extraction Workers, All Other

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

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

- 49-1010 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
- 49-1011 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers

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

- 49-2010 Computer, Automated Teller, and Office Machine Repairers
- 49-2011 Computer, Automated Teller, and Office Machine Repairers
- 49-2020 Radio and Telecommunications Equipment Installers and Repairers
- 49-2021 Radio Mechanics
- 49-2022 Telecommunications Equipment Installers and Repairers, Except Line Installers
- 49-2090 Miscellaneous Electrical and Electronic

- Equipment Mechanics, Installers, and Repairers
- 49-2091 Avionics Technicians
- 49-2092 Electric Motor, Power Tool, and Related Repairers
- 49-2093 Electrical and Electronics Installers and Repairers, Transportation Equipment
- 49-2094 Electrical and Electronics Repairers, Commercial and Industrial Equipment
- 49-2095 Electrical and Electronics Repairers, Powerhouse, Substation, and Relay
- 49-2096 Electronic Equipment Installers and Repairers, Motor Vehicles
- 49-2097 Electronic Home Entertainment Equipment Installers and Repairers
- 49-2098 Security and Fire Alarm Systems Installers

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

- 49-3010 Aircraft Mechanics and Service Technicians
- 49-3011 Aircraft Mechanics and Service Technicians
- 49-3020 Automotive Technicians and Repairers
- 49-3021 Automotive Body and Related Repairers
- 49-3022 Automotive Glass Installers and Repairers
- 49-3023 Automotive Service Technicians and Mechanics
- 49-3030 Bus and Truck Mechanics and Diesel Engine Specialists
- 49-3031 Bus and Truck Mechanics and Diesel Engine Specialists
- 49-3040 Heavy Vehicle and Mobile Equipment Service Technicians and Mechanics
- 49-3041 Farm Equipment Mechanics
- 49-3042 Mobile Heavy Equipment Mechanics, Except Engines
- 49-3043 Rail Car Repairers
- 49-3050 Small Engine Mechanics
- 49-3051 Motorboat Mechanics
- 49-3052 Motorcycle Mechanics
- 49-3053 Outdoor Power Equipment and Other Small Engine Mechanics
- 49-3090 Miscellaneous Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
- 49-3091 Bicycle Repairers
- 49-3092 Recreational Vehicle Service Technicians
- 49-3093 Tire Repairers and Changers

**49-9000 Other Installation, Maintenance, and Repair Occupations**

- 49-9010 Control and Valve Installers and Repairers
- 49-9011 Mechanical Door Repairers
- 49-9012 Control and Valve Installers and Repairers, Except Mechanical Door
- 49-9020 Heating, Air Conditioning, and Refrigeration Mechanics and Installers
- 49-9021 Heating, Air Conditioning, and Refrigeration Mechanics and Installers
- 49-9030 Home Appliance Repairers
- 49-9031 Home Appliance Repairers
- 49-9040 Industrial Machinery Installation, Repair, and Maintenance Workers
- 49-9041 Industrial Machinery Mechanics
- 49-9042 Maintenance and Repair Workers, General
- 49-9043 Maintenance Workers, Machinery
- 49-9044 Millwrights
- 49-9045 Refractory Materials Repairers, Except Brickmasons

- 49-9050 Line Installers and Repairers
- 49-9051 Electrical Power-Line Installers and Repairers
- 49-9052 Telecommunications Line Installers and Repairers
- 49-9060 Precision Instrument and Equipment Repairers
- 49-9061 Camera and Photographic Equipment Repairers
- 49-9062 Medical Equipment Repairers
- 49-9063 Musical Instrument Repairers and Tuners
- 49-9064 Watch Repairers
- 49-9069 Precision Instrument and Equipment Repairers, All Other
- 49-9090 Miscellaneous Installation, Maintenance, and Repair Workers
- 49-9091 Coin, Vending, and Amusement Machine Servicers and Repairers
- 49-9092 Commercial Divers
- 49-9093 Fabric Menders, Except Garment
- 49-9094 Locksmiths and Safe Repairers
- 49-9095 Manufactured Building and Mobile Home Installers
- 49-9096 Riggers
- 49-9097 Signal and Track Switch Repairers
- 49-9098 Helpers—Installation, Maintenance, and Repair Workers
- 49-9099 Installation, Maintenance, and Repair Workers, All Other

## **51-0000 Production Occupations**

### **51-1000 Supervisors, Production Workers**

- 51-1010 First-Line Supervisors/Managers of Production and Operating Workers
- 51-1011 First-Line Supervisors/Managers of Production and Operating Workers

### **51-2000 Assemblers and Fabricators**

- 51-2010 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
- 51-2011 Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
- 51-2020 Electrical, Electronics, and Electromechanical Assemblers
- 51-2021 Coil Winders, Tapers, and Finishers
- 51-2022 Electrical and Electronic Equipment Assemblers
- 51-2023 Electromechanical Equipment Assemblers
- 51-2030 Engine and Other Machine Assemblers
- 51-2031 Engine and Other Machine Assemblers
- 51-2040 Structural Metal Fabricators and Fitters
- 51-2041 Structural Metal Fabricators and Fitters
- 51-2090 Miscellaneous Assemblers and Fabricators
- 51-2091 Fiberglass Laminators and Fabricators
- 51-2092 Team Assemblers
- 51-2093 Timing Device Assemblers, Adjusters, and Calibrators
- 51-2099 Assemblers and Fabricators, All Other

### **51-3000 Food Processing Workers**

- 51-3010 Bakers
- 51-3011 Bakers
- 51-3020 Butchers and Other Meat, Poultry, and Fish Processing Workers
- 51-3021 Butchers and Meat Cutters
- 51-3022 Meat, Poultry, and Fish Cutters and Trimmers

- 51-3023 Slaughterers and Meat Packers
- 51-3090 Miscellaneous Food Processing Workers
- 51-3091 Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders
- 51-3092 Food Batchmakers
- 51-3093 Food Cooking Machine Operators and Tenders

### **51-4000 Metal Workers and Plastic Workers**

- 51-4010 Computer Control Programmers and Operators
- 51-4011 Computer-Controlled Machine Tool Operators, Metal and Plastic
- 51-4012 Numerical Tool and Process Control Programmers
- 51-4020 Forming Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4021 Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4022 Forging Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4023 Rolling Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4030 Machine Tool Cutting Setters, Operators, and Tenders, Metal and Plastic
- 51-4031 Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4032 Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 51-4033 Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 51-4034 Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 51-4035 Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4040 Machinists
- 51-4041 Machinists
- 51-4050 Metal Furnace and Kiln Operators and Tenders
- 51-4051 Metal-Refining Furnace Operators and Tenders
- 51-4052 Pourers and Casters, Metal
- 51-4060 Model Makers and Patternmakers, Metal and Plastic
- 51-4061 Model Makers, Metal and Plastic
- 51-4062 Patternmakers, Metal and Plastic
- 51-4070 Molders and Molding Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4071 Foundry Mold and Coremakers
- 51-4072 Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4080 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 51-4081 Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- 51-4110 Tool and Die Makers
- 51-4111 Tool and Die Makers
- 51-4120 Welding, Soldering, and Brazing Workers
- 51-4121 Welders, Cutters, Solderers, and Brazers
- 51-4122 Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders
- 51-4190 Miscellaneous Metalworkers and Plastic Workers
- 51-4191 Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic
- 51-4192 Lay-Out Workers, Metal and Plastic



- 51-4193 Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic
- 51-4194 Tool Grinders, Filers, and Sharpeners
- 51-4199 Metalworkers and Plastic Workers, All Other
- 51-5000 Printing Workers**
  - 51-5010 Bookbinders and Bindery Workers
    - 51-5011 Bindery Workers
    - 51-5012 Bookbinders
  - 51-5020 Printers
    - 51-5021 Job Printers
    - 51-5022 Prepress Technicians and Workers
    - 51-5023 Printing Machine Operators
- 51-6000 Textile, Apparel, and Furnishings Workers**
  - 51-6010 Laundry and Dry-Cleaning Workers
    - 51-6011 Laundry and Dry-Cleaning Workers
  - 51-6020 Pressers, Textile, Garment, and Related Materials
    - 51-6021 Pressers, Textile, Garment, and Related Materials
  - 51-6030 Sewing Machine Operators
    - 51-6031 Sewing Machine Operators
  - 51-6040 Shoe and Leather Workers
    - 51-6041 Shoe and Leather Workers and Repairers
    - 51-6042 Shoe Machine Operators and Tenders
  - 51-6050 Tailors, Dressmakers, and Sewers
    - 51-6051 Sewers, Hand
    - 51-6052 Tailors, Dressmakers, and Custom Sewers
  - 51-6060 Textile Machine Setters, Operators, and Tenders
    - 51-6061 Textile Bleaching and Dyeing Machine Operators and Tenders
    - 51-6062 Textile Cutting Machine Setters, Operators, and Tenders
    - 51-6063 Textile Knitting and Weaving Machine Setters, Operators, and Tenders
    - 51-6064 Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders
  - 51-6090 Miscellaneous Textile, Apparel, and Furnishings Worker
    - 51-6091 Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers
    - 51-6092 Fabric and Apparel Patternmakers
    - 51-6093 Upholsterers
    - 51-6099 Textile, Apparel, and Furnishings Workers, All Other
- 51-7000 Woodworkers**
  - 51-7010 Cabinetmakers and Bench Carpenters
    - 51-7011 Cabinetmakers and Bench Carpenters
  - 51-7020 Furniture Finishers
    - 51-7021 Furniture Finishers
  - 51-7030 Model Makers and Patternmakers, Wood
    - 51-7031 Model Makers, Wood
    - 51-7032 Patternmakers, Wood
  - 51-7040 Woodworking Machine Setters, Operators, and Tenders
    - 51-7041 Sawing Machine Setters, Operators, and Tenders, Wood
    - 51-7042 Woodworking Machine Setters, Operators, and Tenders, Except Sawing
  - 51-7090 Miscellaneous Woodworkers
    - 51-7099 Woodworkers, All Other
- 51-8000 Plant and System Operators**
  - 51-8010 Power Plant Operators, Distributors, and Dispatchers
    - 51-8011 Nuclear Power Reactor Operators
    - 51-8012 Power Distributors and Dispatchers
    - 51-8013 Power Plant Operators
  - 51-8020 Stationary Engineers and Boiler Operators
    - 51-8021 Stationary Engineers and Boiler Operators
  - 51-8030 Water and Liquid Waste Treatment Plant and System Operators
    - 51-8031 Water and Liquid Waste Treatment Plant and System Operators
  - 51-8090 Miscellaneous Plant and System Operators
    - 51-8091 Chemical Plant and System Operators
    - 51-8092 Gas Plant Operators
    - 51-8093 Petroleum Pump System Operators, Refinery Operators, and Gaugers
    - 51-8099 Plant and System Operators, All Other
- 51-9000 Other Production Occupations**
  - 51-9010 Chemical Processing Machine Setters, Operators, and Tenders
    - 51-9011 Chemical Equipment Operators and Tenders
    - 51-9012 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders
  - 51-9020 Crushing, Grinding, Polishing, Mixing, and Blending Workers
    - 51-9021 Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders
    - 51-9022 Grinding and Polishing Workers, Hand
    - 51-9023 Mixing and Blending Machine Setters, Operators, and Tenders
  - 51-9030 Cutting Workers
    - 51-9031 Cutters and Trimmers, Hand
    - 51-9032 Cutting and Slicing Machine Setters, Operators, and Tenders
  - 51-9040 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders
    - 51-9041 Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders
  - 51-9050 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders
    - 51-9051 Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders
  - 51-9060 Inspectors, Testers, Sorters, Samplers, and Weighers
    - 51-9061 Inspectors, Testers, Sorters, Samplers, and Weighers
  - 51-9070 Jewelers and Precious Stone and Metal Workers
    - 51-9071 Jewelers and Precious Stone and Metal Workers
  - 51-9080 Medical, Dental, and Ophthalmic Laboratory Technicians
    - 51-9081 Dental Laboratory Technicians
    - 51-9082 Medical Appliance Technicians
    - 51-9083 Ophthalmic Laboratory Technicians
  - 51-9110 Packaging and Filling Machine Operators and Tenders
    - 51-9111 Packaging and Filling Machine Operators and Tenders
  - 51-9120 Painting Workers
    - 51-9121 Coating, Painting, and Spraying Machine Setters, Operators, and Tenders
    - 51-9122 Painters, Transportation Equipment
    - 51-9123 Painting, Coating, and Decorating Workers
  - 51-9130 Photographic Process Workers and Processing

- Machine Operators
  - 51-9131 Photographic Process Workers
  - 51-9132 Photographic Processing Machine Operators
- 51-9140 Semiconductor Processors
  - 51-9141 Semiconductor Processors
- 51-9190 Miscellaneous Production Workers
  - 51-9191 Cementing and Gluing Machine Operators and Tenders
  - 51-9192 Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders
  - 51-9193 Cooling and Freezing Equipment Operators and Tenders
  - 51-9194 Etchers and Engravers
  - 51-9195 Molders, Shapers, and Casters, Except Metal and Plastic
  - 51-9196 Paper Goods Machine Setters, Operators, and Tenders
  - 51-9197 Tire Builders
  - 51-9198 Helpers—Production Workers
  - 51-9199 Production Workers, All Other
- 53-0000 Transportation and Material Moving Occupations**
- 53-1000 Supervisors, Transportation and Material Moving Workers**
  - 53-1010 Aircraft Cargo Handling Supervisors
  - 53-1011 Aircraft Cargo Handling Supervisors
  - 53-1020 First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand
    - 53-1021 First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand
  - 53-1030 First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators
    - 53-1031 First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators
- 53-2000 Air Transportation Workers**
  - 53-2010 Aircraft Pilots and Flight Engineers
  - 53-2011 Airline Pilots, Copilots, and Flight Engineers
  - 53-2012 Commercial Pilots
  - 53-2020 Air Traffic Controllers and Airfield Operations Specialists
    - 53-2021 Air Traffic Controllers
    - 53-2022 Airfield Operations Specialists
- 53-3000 Motor Vehicle Operators**
  - 53-3010 Ambulance Drivers and Attendants, Except Emergency Medical Technicians
    - 53-3011 Ambulance Drivers and Attendants, Except Emergency Medical Technicians
  - 53-3020 Bus Drivers
    - 53-3021 Bus Drivers, Transit and Intercity
    - 53-3022 Bus Drivers, School
  - 53-3030 Driver/Sales Workers and Truck Drivers
    - 53-3031 Driver/Sales Workers
    - 53-3032 Truck Drivers, Heavy and Tractor-Trailer
    - 53-3033 Truck Drivers, Light or Delivery Services
  - 53-3040 Taxi Drivers and Chauffeurs
    - 53-3041 Taxi Drivers and Chauffeurs
  - 53-3090 Miscellaneous Motor Vehicle Operators
    - 53-3099 Motor Vehicle Operators, All Other
- 53-4000 Rail Transportation Workers**
  - 53-4010 Locomotive Engineers and Operators
    - 53-4011 Locomotive Engineers
    - 53-4012 Locomotive Firers
  - 53-4013 Rail Yard Engineers, Dinkey Operators, and Hostlers
  - 53-4020 Railroad Brake, Signal, and Switch Operators
    - 53-4021 Railroad Brake, Signal, and Switch Operators
  - 53-4030 Railroad Conductors and Yardmasters
    - 53-4031 Railroad Conductors and Yardmasters
  - 53-4040 Subway and Streetcar Operators
    - 53-4041 Subway and Streetcar Operators
  - 53-4090 Miscellaneous Rail Transportation Workers
    - 53-4099 Rail Transportation Workers, All Other
- 53-5000 Water Transportation Workers**
  - 53-5010 Sailors and Marine Oilers
    - 53-5011 Sailors and Marine Oilers
  - 53-5020 Ship and Boat Captains and Operators
    - 53-5021 Captains, Mates, and Pilots of Water Vessels
    - 53-5022 Motorboat Operators
  - 53-5030 Ship Engineers
    - 53-5031 Ship Engineers
- 53-6000 Other Transportation Workers**
  - 53-6010 Bridge and Lock Tenders
    - 53-6011 Bridge and Lock Tenders
  - 53-6020 Parking Lot Attendants
    - 53-6021 Parking Lot Attendants
  - 53-6030 Service Station Attendants
    - 53-6031 Service Station Attendants
  - 53-6040 Traffic Technicians
    - 53-6041 Traffic Technicians
  - 53-6050 Transportation Inspectors
    - 53-6051 Transportation Inspectors
  - 53-6090 Miscellaneous Transportation Workers
    - 53-6099 Transportation Workers, All Other
- 53-7000 Material Moving Workers**
  - 53-7010 Conveyor Operators and Tenders
    - 53-7011 Conveyor Operators and Tenders
  - 53-7020 Crane and Tower Operators
    - 53-7021 Crane and Tower Operators
  - 53-7030 Dredge, Excavating, and Loading Machine Operators
    - 53-7031 Dredge Operators
    - 53-7032 Excavating and Loading Machine and Dragline Operators
    - 53-7033 Loading Machine Operators, Underground Mining
  - 53-7040 Hoist and Winch Operators
    - 53-7041 Hoist and Winch Operators
  - 53-7050 Industrial Truck and Tractor Operators
    - 53-7051 Industrial Truck and Tractor Operators
  - 53-7060 Laborers and Material Movers, Hand
    - 53-7061 Cleaners of Vehicles and Equipment
    - 53-7062 Laborers and Freight, Stock, and Material Movers, Hand
    - 53-7063 Machine Feeders and Offbearers
    - 53-7064 Packers and Packagers, Hand
  - 53-7070 Pumping Station Operators
    - 53-7071 Gas Compressor and Gas Pumping Station Operators
    - 53-7072 Pump Operators, Except Wellhead Pumps
    - 53-7073 Wellhead Pumps
  - 53-7080 Refuse and Recyclable Material Collectors
    - 53-7081 Refuse and Recyclable Material Collectors
  - 53-7110 Shuttle Car Operators
    - 53-7111 Shuttle Car Operators
  - 53-7120 Tank Car, Truck, and Ship Loaders

53-7121 Tank Car, Truck, and Ship Loaders  
53-7190 Miscellaneous Material Moving Workers  
53-7199 Material Moving Workers, All Other

**55-0000 Military Specific Occupations**

**55-1000 Military Officer Special and Tactical Operations**

**Leaders/Managers**

55-1010 Military Officer Special and Tactical Operations  
Leaders/Managers  
55-1011 Air Crew Officers  
55-1012 Aircraft Launch and Recovery Officers  
55-1013 Armored Assault Vehicle Officers  
55-1014 Artillery and Missile Officers  
55-1015 Command and Control Center Officers  
55-1016 Infantry Officers  
55-1017 Special Forces Officers  
55-1019 Military Officer Special and Tactical  
Operations Leaders/Managers, All Other

**55-2000 First-Line Enlisted Military Supervisor/  
Managers**

55-2010 First-Line Enlisted Military Supervisors/  
Managers

55-2011 First-Line Supervisors/Managers  
of Air Crew Members  
55-2012 First-Line Supervisors/Managers  
of Weapons Specialists/Crew Members  
55-2013 First-Line Supervisors/Managers  
of All Other Tactical Operations  
Specialists

**55-3000 Military Enlisted Tactical Operations and Air/  
Weapons Specialists and Crew Members**

55-3010 Military Enlisted Tactical Operations  
and Air/Weapons Specialists and Crew Members  
55-3011 Air Crew Members  
55-3012 Aircraft Launch and Recovery Specialists  
55-3013 Armored Assault Vehicle Crew Members  
55-3014 Artillery and Missile Crew Members  
55-3015 Command and Control Center Specialists  
55-3016 Infantry  
55-3017 Radar and Sonar Technicians  
55-3018 Special Forces  
55-3019 Military Enlisted Tactical Operations  
and Air/Weapons Specialists and Crew Members,  
All Other