

# Bureau of Labor Statistics

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## OCCUPATIONAL EMPLOYMENT AND WAGES, 2002

Management and legal occupational groups were the highest paying of the 22 major occupational groups in 2002, according to the Bureau of Labor Statistics of the U.S. Department of Labor. The occupational group with the highest employment level in 2002 was office and administrative support workers, followed by sales and related workers, production workers, and food preparation and serving workers. (See chart 1.) These statistics for wage and salary workers are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Employment Security Agencies (SESAs).

The OES survey provides estimates of employment, hourly wages, and annual wages for 22 major occupational groups and for 770 detailed occupations, as defined by the Standard Occupational Classification (SOC) system. (See table A.)

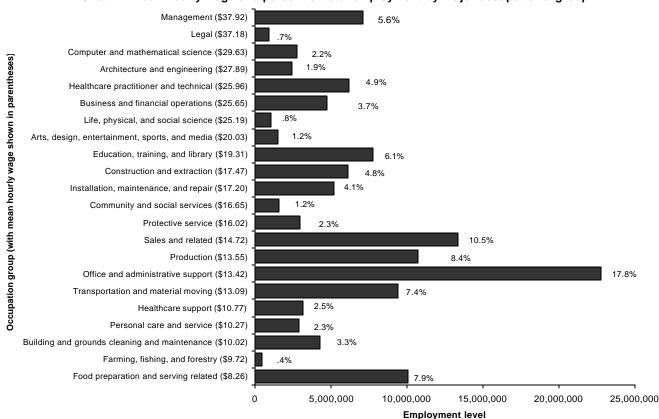


Chart 1. Mean hourly wage and percent of total employment by major occupational group

The highest-paying major groups in 2002 were management occupations and legal occupations. About 30 percent of the workers in these occupational groups earned more than \$43.75 per hour. (See table B.) The occupational groups with the lowest average wages were food preparation and serving related; farming, fishing, and forestry; building and grounds cleaning and maintenance; and personal care and service. At least 40 percent of all workers in each of these lowest-paying groups earned less than \$8.50 per hour.

Major groups whose wages were concentrated in the middle included business and financial operations occupations; life, physical, and social science occupations; community and social services occupations; education, training, and library occupations; healthcare practitioner and technical occupations; construction and extraction occupations; and installation, maintenance, and repair occupations.

In addition to estimates for the 22 OES major occupational groups, the OES program produces detailed occupational wages across all industries. These estimates show that wages for occupations can vary substantially within a major occupational group. Table 1 shows wages for the detailed occupations within each group.

Table A. Employment and wages by major occupational group, 2002

Occ		ations	Employ	Average	
Major occupational group	Number	Percent of total	Number	Percent of total	(mean) hourly wage
m . 1	770	100.0	107 500 740	100.0	
Total	770	100.0	127,523,740	100.0	Φ 27 02
Management	30	3.9	7,092,460	5.6	\$ 37.92
Business and financial operations	28	3.6	4,772,120	3.7	25.65
Computer and mathematical science	16	2.1	2,772,620	2.2	29.63
Architecture and engineering	35	4.5	2,411,260	1.9	27.89
Life, physical, and social science	39	5.1	1,078,630	.8	25.19
Community and social services	14	1.8	1,576,980	1.2	16.65
Legal	9	1.2	934,850	.7	37.18
Education, training, and library	58	7.5	7,772,470	6.1	19.31
Arts, design, entertainment, sports,					
and media	37	4.8	1,503,680	1.2	20.03
Healthcare practitioner and technical	46	6.0	6,185,020	4.9	25.96
Healthcare support	15	1.9	3,173,400	2.5	10.77
Protective service	20	2.6	2,993,490	2.3	16.02
Food preparation and serving related	16	2.1	10,067,080	7.9	8.26
Building and grounds cleaning and					
maintenance	9	1.2	4,262,880	3.3	10.02
Personal care and service	33	4.3	2,919,280	2.3	10.27
Sales and related	21	2.7	13,339,570	10.5	14.72
Office and administrative support	56	7.3	22,754,570	17.8	13.42
Farming, fishing, and forestry	13	1.7	451,140	.4	9.72
Construction and extraction	58	7.5	6,124,600	4.8	17.47
Installation, maintenance, and repair	53	6.9	5,215,970	4.1	17.20
Production	112	14.5	10,726,670	8.4	13.55
Transportation and material moving	52	6.8	9,395,000	7.4	13.09

The two largest detailed occupations can be found within the sales group. Retail salespersons and cashiers were the largest occupations in the United States, with almost 3.9 million and 3.4 million employees, respectively. General office clerks and registered nurses were the next largest occupations with 2.9 million and 2.2 million workers, respectively.

The seven highest-paying occupations were all found in the occupational group of healthcare practitioner and technical occupations and were all doctors. The average hourly wage for these occupations ranged from \$91.15 for surgeons to \$65.01 for psychiatrists. Seven of the lowest-paying occupations were found in food preparation and serving, where the average wages for workers ranged from \$7.18 per hour for fast-food cooks to \$7.76 per hour for hosts and hostesses.

The OES survey is designed to estimate employment and wages at detailed industry and area levels with a desired level of reliability based on a sample of 1.2 million establishments, collected over a 3-year period. Because the 2002 estimates represent the first year that OES estimates were based on the North American Industry Classification System (NAICS) and because of the program's transition to semiannual collection and publication, the 2002 estimates are based on 4-year responses from establishments for 1999, 2000, 2001, and 2002.

**Table B.** Wage distribution by major occupational group, 2002 (Percent distribution)

	Wage range								
Major occupational group	Under	\$8.50	\$10.75	\$13.50	\$17.00	\$21.50	\$27.25	\$34.50	Over
1. Lagor occupanional group	\$8.50	to	\$43.75						
	Φ0.50	\$10.74	\$13.49	\$16.99	\$21.49	\$27.24	\$34.49	\$43.74	Ψ13.73
Management	1.6	1.7	3.5	6.8	10.6	14.4	16.2	16.0	29.2
Business and financial operations		2.5	6.6	13.7	19.9	21.1	16.6	9.7	7.9
Computer and mathematical science		1.8	3.8	7.7	13.5	19.4	21.7	18.4	12.8
Architecture and engineering		2.0	4.7	9.2	15.3	21.2	20.9	16.1	9.8
Life, physical, and social science		4.3	8.1	14.0	18.0	19.0	15.2	10.0	8.8
Community and social services		12.0	18.9	21.3	18.2	12.8	6.2	1.9	.8
Legal		2.7	6.3	10.8	14.3	12.9	11.4	10.6	29.3
Education, training, and library	12.6	8.8	10.2	15.2	18.5	16.7	10.5	4.7	2.9
Arts, design, entertainment, sports, and media	13.7	10.5	12.4	15.0	15.1	13.5	9.1	5.4	5.3
Healthcare practitioner and technical	3.2	5.5	8.9	14.0	20.4	20.2	12.2	6.3	9.4
Healthcare support	27.7	30.5	22.6	12.7	4.8	1.2	.3	.1	-
Protective service	18.3	14.4	15.6	14.2	13.8	12.7	7.4	2.9	.8
Food preparation and serving related	68.2	17.0	8.5	3.9	1.7	.5	.2	.1	-
Building and grounds cleaning and									
maintenance	43.9	24.3	15.7	9.2	4.7	1.6	.4	.1	-
Personal care and service	50.9	20.8	11.3	7.0	4.7	2.6	1.2	.7	.6
Sales and related	38.4	16.2	11.1	9.4	8.0	6.1	4.2	2.9	3.8
Office and administrative support	16.0	20.2	22.8	19.1	13.8	5.4	1.8	.6	.3
Farming, fishing, and forestry	57.1	17.3	10.6	7.2	4.4	2.0	.8	.3	.1
Construction and extraction	7.8	12.4	16.6	18.6	17.6	14.4	8.8	3.0	.8
Installation, maintenance, and repair	7.9	11.0	15.6	19.4	20.4	16.2	7.0	1.8	.5
Production	19.4	20.4	20.1	16.8	11.5	7.7	3.0	.8	.2
Transportation and material moving	27.5	19.4	17.7	14.6	11.0	6.2	2.1	.7	.9

The OES employment estimates presented in this release are benchmarked to data from the fourth-quarter 2002 Census of Employment and Wages. The 1999, 2000, and 2001 wage data have been adjusted to the 2002 reference period, using over-the-year wage changes in the most applicable national Employment Cost Index series. For further details, see the Technical Note.

The 2002 OES data for states and metropolitan areas and the national employment and wage data by industry will be available on the BLS Web site in late November.

## **Technical Note**

#### Scope of the survey

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments, by industry, in the United States. (Guam, Puerto Rico, and the Virgin Islands also are surveyed, but their data are not included in this release.) In 2002, the OES survey switched from industry coding based on the Standard Industrial Classification (SIC) system to that based on the North American Industry Classification System (NAICS). The nationwide response rate for the 2002 survey was 78 percent for establishments, covering 71 percent of employment.

In November 2002, the OES survey changed from an annual survey of 400,000 establishments to a semiannual survey of 200,000 establishments. The OES survey samples and contacts establishments in May and November of each year and, over 3 years, contacts approximately 1.2 million establishments. The full 3-year sample allows the production of estimates at fine levels of geographic, industrial, and occupational detail.

In order to maintain adequate geographic, industrial, and occupational coverage through the implementation of NAICS and semiannual sampling, the 2002 data were combined with the annual samples from 1999, 2000, and 2001 for a total sample size of approximately 1.4 million establishments. Estimates from the OES survey are based on data collected using the Standard Occupational Classification (SOC) system. A brief description of this classification system is provided below.

#### The occupational classification system for 2002

In 1999, the OES survey began using the Office of Management and Budget's (OMB) occupational classification system, the Standard Occupational Classification (SOC) system. The SOC system is the first OMB-required occupational classification system for federal agencies. The OES survey categorizes workers in 1 of about 770 detailed occupations. Together, these detailed occupations comprise 22 major occupational groups. The major groups are as follows:

Management occupations

Business and financial operations occupations

Computer and mathematical science 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 practitioner 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 (not surveyed in OES)

For more information about the SOC system, please see the Bureau of Labor Statistics (BLS) Web site at http://www.bls.gov/soc.

#### The industry coding system for 2002

In 2002, the OES survey switched from using the Standard Industrial Classification (SIC) system to using the North American Industry Classification System (NAICS). Due to differences in NAICS and SIC structures, OES industry data for 2002 are not comparable with the SIC-based data for earlier years. For more information about NAICS, see the BLS Web site at http://www.bls.gov/bls/naics.htm. An establishment is defined as an economic unit that processes goods or provides services, such as a factory, mine, or store. The establishment is generally at a single physical location and is engaged primarily in one type of economic activity.

The OES survey covers all full- and part-time wage and salary workers in nonfarm industries. The survey does not include the selfemployed owners and partners in unincorporated firms, household workers, or unpaid family workers.

The OES survey includes establishments in NAICS sectors 11 (logging and agricultural support activities only), 21, 22, 23, 31-33, 42, 44-45, 48-49, 51, 52, 53, 54, 55, 56, 61, 62, 71, 72, 81 (except private households), state government, and local government. Data for the U.S. Postal Service and the federal government are universe counts obtained from the Postal Service and the Office of Personnel Management, respectively.

BLS funds the survey and provides the procedures and technical support, while the State Employment Security Agencies (SESAs) collect the data. BLS produces cross-industry NAICS estimates for the nation, states, and metropolitan statistical areas (MSAs). NAICS estimates are produced primarily at the 4-digit level with some 5-digit exceptions. BLS releases all cross-industry and national estimates, and the SESAs release industry estimates at the state and MSA levels.

The OES survey defines employment as the number of workers who can be classified as full-time or part-time employees, including workers on paid vacations or other types of leave; workers on unpaid short-term absences; salaried officers, executives, and staff members of incorporated firms; employees temporarily assigned to other units; and employees for whom the reporting unit is their permanent duty station regardless of whether that unit prepares their paycheck.

State Unemployment Insurance (UI) files provide the universe from which the OES survey draws its sample. The employment benchmarks are obtained from reports submitted by employers to the UI program. In some non-manufacturing industries, supplemental sources are used for establishments not reporting to the UI program. The OES survey sample is stratified by area, industry, and size class. Size classes are defined as follows:

Size class	Number of employees
1	1 to 4
2	5 to 9
3	10 to 19
4	20 to 49
5	50 to 99
6	100 to 249
7	250 and above

UI reporting units with 250 or more employees are sampled with virtual certainty across a 3-year period. Generally, one-sixth of the certainty units are sampled in each panel in each state.

#### Concepts

Occupational employment is the estimate of total wage and salary employment in an occupation across the industries in which that

occupation was reported. The OES survey form sent to an establishment contains between 50 and 225 SOC occupations selected on the basis of the sampled establishment's industry classification and size class. To reduce paperwork and respondent burden, no survey form contains every SOC occupation. Thus, data for specific occupations are collected primarily from establishments in industries that are the predominant employers of workers in those occupations. Each survey form is structured, however, to allow a respondent to provide detailed occupational information for each worker at the establishment; that is, workers in unlisted occupations can have their occupations added to the survey form.

Wages for the OES survey are straight-time, gross pay, exclusive of premium pay. Base rate, cost-of-living allowances, guaranteed pay, hazardous-duty pay, incentive pay including commissions and production bonuses, tips, and on-call pay are included. Excluded are back pay, jury duty pay, overtime pay, severance pay, shift differentials, non-production bonuses, employer cost for supplementary benefits, and tuition reimbursements.

The OES survey collects wage data in 12 intervals. Employers report the number of employees in an occupation for each wage range. The wage intervals used for the 2002 survey are as follows:

Interval	Wages					
intervai	Hourly	Annual				
Range A	Under \$6.75	Under \$14,040				
Range B	\$6.75 to \$8.49	\$14,040 to \$17,679				
Range C	\$8.50 to \$10.74	\$17,680 to \$22,359				
Range D	\$10.75 to \$13.49	\$22,360 to \$28,079				
Range E	\$13.50 to \$16.99	\$28,080 to \$35,359				
Range F	\$17.00 to \$21.49	\$35,360 to \$44,719				
Range G	\$21.50 to \$27.24	\$44,720 to \$56,679				
Range H	\$27.25 to \$34.49	\$56,680 to \$71,759				
Range I	\$34.50 to \$43.74	\$71,760 to \$90,999				
Range J	\$43.75 to \$55.49	\$91,000 to \$115,439				
Range K	\$55.50 to \$69.99	\$115,440 to \$145,599				
Range L	\$70.00 and over	\$145,600 and over				

A mean (average) wage value is calculated for each wage interval based on occupational wage data collected by the BLS Office of Compensation and Working Conditions for the National Compensation Survey (NCS). These interval mean wage values are then attributed to all workers reported in the interval. To calculate the mean wage of each occupation, total weighted wages are summed across all intervals and divided by the occupation's weighted survey employment.

The mean wage value for the highest wage interval, \$70.00 and over, is calculated after excluding data for pilots. Pilots comprise a large portion of the employment from the NCS survey that falls into the highest interval, and about one percent of the workers reported for the OES survey makes \$70.00 and over. Since pilots work much fewer hours than workers in other occupations, their hourly wage rates are much higher than other occupations. After excluding pilots from the calculation, the mean wage for the highest interval was computed separately for 1999, 2000, 2001, and 2002. Then the average of these four mean wages was derived and used for all of the \$70.00 and over data in the 2002 survey. The wages for this interval do not go through any wage updating procedures.

Annual Wage. Many employees are paid at an hourly rate by their employers and may work more than or less than 40 hours per week. The annual wage estimates in this release are calculated by

multiplying the mean hourly wage by a "year-round, full-time" figure of 2,080 hours (52 weeks by 40 hours). Thus, the annual wage estimates may not represent the actual annual pay received by the employee if they work more or less than 2,080 hours per year. Alternatively, some workers are paid based on an annual amount, but they generally do not work the usual 2,080 hours per year. Since the OES survey does not collect the actual number of hours worked, the hourly rate cannot be calculated with a reasonable degree of confidence from the annual wages. For this reason, the annual salary is directly calculated from reported survey data, and only annual wages are estimated for these occupations. Occupations that typically have a work year of less than 2,080 hours include musical and entertainment occupations, pilots and flight attendants, and teachers.

Hourly versus annual wage reporting. For each occupation, respondents are asked to report the number of employees paid within specific wage intervals. The intervals are defined both as hourly rates and the corresponding annual rates, where the annual rate for an occupation is calculated by multiplying the hourly wage rate by a typical work year of 2,080 hours. The responding establishment can reference either the hourly or the annual rate, but they are instructed to report the hourly rate for part-time workers.

### **Estimation methodology**

Beginning in the fourth quarter of 2002, the OES survey samples approximately 200,000 establishments semiannually in the second and fourth quarters of the year, for a combined sample of 1.2 million different establishments over six semiannual panels. Until 2002, the survey sampled approximately 400,000 establishments in the fourth quarter of each year, for a 3-year combined sample size of 1.2 million. While estimates can be made from a single year or 2 years of data, the OES survey has been designed to produce estimates at a desired level of precision using the full 3 years of data. The 3-year sample allows the production of estimates at fine levels of geographical, industrial, and occupational detail. Since the 2002 sample was the first time that 200,000 establishments were sampled, the data were combined with annual survey data from 1999, 2000, and 2001, for a combined sample of approximately 1.4 million to provide adequate coverage of the sampling frame for these detailed estimates.

Producing estimates using the 3 years of sample data provides significant sampling error reductions (particularly for small geographic areas and occupations); however, it also has some quality limitations in that it requires the adjustment of earlier years' data to the current reference period, a procedure referred to as "wage updating."

Wage updating. As noted above, combining multiple years of data has both statistical advantages and limitations. Significant reductions in sampling error can be achieved by taking advantage of 3 years of data, which covers over 70 percent of the employment in the United States. This feature is particularly important in improving the reliability of estimates for small domains in the population (that is, wage and employment estimates for detailed occupations in small areas). Combining multiple years of data also has been necessary to obtain full coverage of establishments with 250 or more workers that are sampled with certainty.

Starting with the 1997 estimates, the OES program has used the over-the-year fourth-quarter wage changes from the BLS Employment Cost Index (ECI) to adjust prior year survey data before combining it with the current year's data. The wage updating procedure assumes that each occupation's wage, as measured in the earlier years, moves according to the average movement of its occupational division and that there are no major geographic or detailed occupational differences.

2002 OES survey estimates. The 2002 OES survey estimates are based on data collected from establishments for the 1999, 2000, 2001, and 2002 samples. The 2002 estimates use the wage-updating methodology introduced in 1997. In addition, the 2002 estimates use the estimation methodology introduced in 1997, which uses a "nearest neighbor" imputation approach for nonresponse and applies employment benchmarks at the state-MSA/4-digit NAICS (with 5-digit exceptions) /size class level.

Reliability of the estimates. Statistics based on establishment surveys are subject to both sampling and nonsampling error. When a sample of the population is surveyed, there is a chance that the sample estimate of a characteristic may differ from the population value of that characteristic. The difference between the sample estimate and the population value will vary depending on the particular sample selected. This variability is measured by the sampling error (SE). If the sampling and estimation process using the same survey design was repeated, 90 percent of the intervals created by adding and subtracting 1.645 standard errors from the sample estimate would include the population value. This interval is called a 90-percent confidence interval.

The OES survey produces estimates of the relative standard error (RSE). The RSE is defined as the SE divided by the estimated value as computed from the sample. This statistic provides a measure of the relative precision of the sample estimates. The SE may be obtained by multiplying the RSE by the sample estimate. RSE estimates are produced for both occupational employment and mean wage estimates. The employment RSE values are estimated using a subsample replication technique known as the Jackknife (random

group) variance estimation method. The mean wage RSE values are estimated using a variance components model that accounts for both the observed and unobserved components of the wage data. The variances of the unobserved components of the wage data are calculated from the BLS National Compensation Survey. In general, estimates involving many establishments have lower relative standard errors than estimates involving few establishments. If the distributional assumptions of the models are violated, the resulting confidence interval may not reflect the prescribed level of confidence.

#### **Additional information**

The 2002 OES national data by occupation, comparable to data in table 1, will be available soon on the Internet (http://www.bls.gov/oes). Users also may access each occupation's definition and percentile wages. The 2002 cross-industry data for states and metropolitan areas will be available on the BLS Web site in late November. Industry staffing patterns at the 4- and 5-digit NAICS levels also will be available from the Internet beginning in late November. These data will include industry-specific occupational employment and wage data.

For additional information, contact the Office of Employment and Unemployment Statistics, Division of Occupational Employment Statistics, Room 2135, 2 Massachusetts Avenue, NE, Washington, DC, 20212; telephone 202-691-6569 (e-mail: oesinfo@bls.gov).

Information in this release will be made available to sensory impaired individuals upon request. Voice phone: 202-691-5200; TDD message referral phone number: 1-800-877-8339.

Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002

		Mean	Mean wages	
Occupation	Employment	Hourly	Annual <sup>1</sup>	Median hourly wages
Management occupations				
Chief executives	. 452,400	\$64.89	\$134,960	\$60.70
General and operations managers	1,998,350	40.19	83,590	32.80
Legislators	. 64,650	14.62	30,420	7.32
Advertising and promotions managers	81,090	33.27	69,200	27.47
Marketing managers	. 192,080	41.91	87,170	37.62
Sales managers	. 328,060	41.40	86,110	36.08
Public relations managers	62,640	33.59	69,870	29.15
Administrative services managers	. 306,370	28.54	59,350	25.24
Computer and information systems managers	. 264,790	43.48	90,440	40.98
Financial managers	. 563,020	39.94	83,080	35.26
Human resources managers	. 193,360	34.12	70,960	31.11
Industrial production managers	. 173,960	35.09	72,980	32.37
Purchasing managers	. 105,010	31.85	66,250	28.79
Transportation, storage, and distribution managers	107,400	31.29	65,070	28.68
Farm, ranch, and other agricultural managers	. 5,630	23.65	49,200	21.03
Construction managers	,	34.24	71,210	30.53
Education administrators, preschool and child care center/program		18.84	39,190	16.03
Education administrators, elementary and secondary school		(2)	74,050	(2)
Education administrators, postsecondary		34.44	71,630	31.08
Engineering managers		46.03	95,750	43.71
Food service managers	/	19.75	41,090	17.21
Funeral directors	-, -	24.83	51,650	20.85
Gaming managers	,	29.29	60,910	26.12
Lodging managers		18.32	38,110	16.33
Medical and health services managers	,	33.35	69,370	29.50
Natural sciences managers		43.46	90.400	39.54
Postmasters and mail superintendents		23.36	48,590	23.34
Property, real estate, and community association managers	,	22.30	46,390	17.73
Social and community service managers		22.55	46,900	20.71
Business and financial operations occupations				
Agents and business managers of artists, performers, and athletes	. 11,590	33.16	68,970	26.79
Purchasing agents and buyers, farm products		22.56	46,930	19.66
Wholesale and retail buyers, except farm products	,	22.43	46,650	19.60
Purchasing agents, except wholesale, retail, and farm products		23.21	48,270	21.68
Claims adjusters, examiners, and investigators		22.11	45,990	20.68
Insurance appraisers, auto damage		20.97	43,620	20.50
Compliance officers, except agriculture, construction, health and safety,		20.0.	.0,020	20.00
and transportation	. 146,670	23.29	48,450	21.54
Cost estimators		24.67	51,310	22.86
Emergency management specialists	,	22.75	47,320	20.94
Employment, recruitment, and placement specialists	,	22.14	46,050	18.95
Compensation, benefits, and job analysis specialists		23.04	47,920	21.68
Training and development specialists	,	22.11	46,000	20.58
Management analysts		33.73	70,160	29.01
Meeting and convention planners	/	19.72	41,020	17.99
Accountants and auditors	888,690	25.59	53,230	22.60
Appraisers and assessors of real estate		22.18	46,120	20.08
Budget analysts		26.67		25.23
Credit analysts		23.81	55,470	20.63
Financial analysts	,	32.30	49,530 67,180	27.45
Personal financial advisors		32.30 37.72	78,460	27.45
Insurance underwriters.			50,940	21.92
Financial examiners	/	24.49 29.60	,	27.03
Loan counselors			61,570	
Loan officers	-,	17.52	36,450	15.39
	-, -	25.08	52,160	21.15
Tax examiners, collectors, and revenue agents	,	21.99	45,730	20.31
Tax preparers	. 54,330	15.21	31,630	12.32
Computer and mathematical science occupations	6.446	00.74	00.510	07.00
Computer and information scientists, research		38.71	80,510	37.38
Computer programmers	,	30.62	63,690	28.98
Computer software engineers, applications		35.48	73,800	34.09
Computer software engineers, systems software		36.46	75,840	35.60
Computer support specialists		20.35	42,320	18.80
Computer systems analysts		31.20	64,890	30.24
Database administrators		28.41	59,080	26.68
Network and computer systems administrators		27.70	57,620	26.35
Network systems and data communications analysts	133,460	29.51	61,390	28.09
Actuaries	. 14,440	38.84	80,780	33.64
				00.77
Mathematicians	. 2,600	36.35	75,610	36.77

	<u> </u>	Mean v	wages	Median hourly	
Occupation	Employment	Hourly	Annual <sup>1</sup>	wages	
Computer and mathematical science occupations ¾ Continued					
Operations research analysts	56,310	\$29.27	\$60,890	\$27.36	
Statisticians	17,820	28.85	60,000	27.44	
Mathematical technicians	1,970	20.64	42,920	17.56	
Architecture and engineering occupations					
Architects, except landscape and naval	87,700	30.06	62,530	27.22	
Landscape architects		25.02	52,050	22.79	
Cartographers and photogrammetristsSurveyors		21.72 20.50	45,180 42,630	20.61 19.22	
Aerospace engineers	74,210	35.63	74,110	34.97	
Agricultural engineers		26.79	55,730	24.38	
Biomedical engineers		30.97	64,420	29.04	
Chemical engineers		36.06	75,010	34.85	
Civil engineers	207,480	30.29	63,010	28.88	
Computer hardware engineers	67,180	36.61	76,150	34.69	
Electrical engineers	146,180	33.88	70,480	32.78	
Electronics engineers, except computer		34.43	71,600	33.62	
Environmental engineers		30.50	63,440	29.52	
Health and safety engineers, except mining safety engineers and inspectors		28.77	59,830	27.89	
Industrial engineers		30.57	63,590	29.88	
Marine engineers and naval architects		32.83	68,280	32.04	
Materials engineers		30.92	64,310 65.170	30.09	
Mechanical engineers		31.33	, -	30.23 29.70	
Nuclear engineers	-,	31.14 39.57	64,770 82,300	39.11	
Petroleum engineers		41.13	85,540	40.08	
Architectural and civil drafters	101,190	18.78	39,060	17.95	
Electrical and electronics drafters	- ,	21.16	44,020	19.76	
Mechanical drafters		20.71	43,080	19.58	
Aerospace engineering and operations technicians		25.48	52,990	24.83	
Civil engineering technicians		18.71	38,910	18.13	
Electrical and electronic engineering technicians	194,960	21.26	44,210	20.65	
Electro-mechanical technicians		19.20	39,930	18.33	
Environmental engineering technicians		18.93	39,380	17.72	
Industrial engineering technicians		21.79	45,310	20.15	
Mechanical engineering technicians		20.60 15.27	42,850 31,760	19.85 14.05	
		-	,		
Life, physical, and social science occupations Agricultural and food scientists	14,920	25.38	52,800	23.40	
Biochemists and biophysicists		31.55	65,620	29.03	
Microbiologists	14,730	26.78	55,700	24.53	
Zoologists and wildlife biologists	12,970	23.68	49,250	22.95	
Conservation scientists		24.43	50,820	24.20	
Foresters		23.11	48,060	22.47	
Epidemiologists		27.98 31.83	58,190 66,200	25.89 27.40	
	, , , , , , , , , , , , , , , , , , ,				
AstronomersPhysicists		38.71 42.08	80,510 87,530	39.27 40.88	
Atmospheric and space scientists	,	29.33	61,000	28.94	
Chemists		27.72	57,670	25.43	
Materials scientists	- /	32.33	67,240	31.05	
Environmental scientists and specialists, including health		24.51	50,970	22.88	
Geoscientists, except hydrologists and geographers	26,130	37.83	78,690	32.44	
Hydrologists	7,390	28.28	58,820	27.18	
Economists		36.62	76,180	32.96	
Market research analysts		28.97	60,260	25.87	
Survey researchers		14.60	30,360	10.67	
Clinical, counseling, and school psychologists		27.18	56,540	24.60	
Industrial-organizational psychologists		33.49	69,670	30.63	
Sociologists		27.17	56,520	25.56	
Urban and regional planners		24.98 20.38	51,960 42,380	23.98 18.57	
Anthropologists and archeologists		20.38	,	25.68	
GeographersHistorians		26.10	54,290 45,090	25.68	
Political scientists.		38.48	80,040	38.73	
Agricultural and food science technicians	15,990	14.91	31,010	13.74	
Biological technicians		16.65	34,630	15.73	
G	,		,- 30	1	

Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002  $^{3/4}$  Continued

Occupation	F	Mean	Mean wages	
Occupation	Employment	Hourly	Annual <sup>1</sup>	Median hourl wages
fe, physical, and social science occupations ¾ Continued				
Chemical technicians	67,230	\$18.70	\$38,890	\$18.0
Geological and petroleum technicians		19.94	41,470	18.9
Nuclear technicians	-,	29.43	61,220	28.8
Environmental science and protection technicians, including health		17.96	37,370	16.9
Forensic science technicians	,	20.81	43,280	19.7
Forest and conservation technicians	,	15.72	32,700	14.9
ommunity and social services occupations				
Substance abuse and behavioral disorder counselors	63,310	15.32	31,860	14.5
Educational, vocational, and school counselors	208,340	22.19	46,160	21.2
Marriage and family therapists	22,130	18.45	38,370	17.1
Mental health counselors	81,030	15.77	32,800	14.3
Rehabilitation counselors		13.75	28,590	12.
Child, family, and school social workers	259,990	17.14	35,640	15.9
Medical and public health social workers	103,180	18.71	38,920	17.9
Mental health and substance abuse social workers	91,240	16.76	34,860	15.
Health educators	43,240	18.84	39,190	17.4
Probation officers and correctional treatment specialists	78,990	19.81	41,210	18.
Social and human service assistants		12.04	25,040	11.
Clergy	1 ' 1	17.35	36,080	15.
Directors, religious activities and education		15.54	32,330	13.
egal occupations				
Lawyers		50.91	105,890	43.4
Administrative law judges, adjudicators, and hearing officers	16,700	32.76	68,130	31.
Arbitrators, mediators, and conciliators	5,090	26.91	55,970	22.
Judges, magistrate judges, and magistrates	25,100	40.97	85,210	45.
Paralegals and legal assistants	193,300	19.51	40,590	18.
Court reporters		21.59	44,910	19.
Law clerks	,	15.42	32,070	14
Title examiners, abstractors, and searchers	48,060	17.93	37,300	15.
ducation, training, and library occupations  Business teachers, postsecondary	66,520	(2)	61,400	
Computer science teachers, postsecondary		(2) (2)	55,330	
			55,060	
Mathematical science teachers, postsecondary		(2)	,	
Architecture teachers, postsecondary		(2)	61,930	
Engineering teachers, postsecondary		(2)	73,100	
Agricultural sciences teachers, postsecondary		(2)	67,660	
Biological science teachers, postsecondary		(2)	67,750	
Forestry and conservation science teachers, postsecondary		(2)	68,030	
Atmospheric, earth, marine, and space sciences teachers, postsecondary		(2)	67,320	
Chemistry teachers, postsecondary		(2)	60,800	
Environmental science teachers, postsecondary	1 ' 1	(2) (2)	63,380 66,960	
	·			
Anthropology and archeology teachers, postsecondary		(2)	62,910	
Area, ethnic, and cultural studies teachers, postsecondary		(2)	61,180	
Economics teachers, postsecondary		(2)	68,370	
Geography teachers, postsecondary		(2)	59,790	
Political science teachers, postsecondary		(2)	62,110	
Psychology teachers, postsecondary	-,	(2)	58,680	
Sociology teachers, postsecondary	,	(2)	56,510	
Health specialties teachers, postsecondary		(2)	72,820	
Nursing instructors and teachers, postsecondary	36,500	(2)	52,970	
Education teachers, postsecondary		(2)	52,240	
Library science teachers, postsecondary	3,760	(2)	54,480	
Criminal justice and law enforcement teachers, postsecondary		(2)	48,890	
Law teachers, postsecondary		(2)	88,020	
Social work teachers, postsecondary		(2)	56,070	
Art, drama, and music teachers, postsecondary		(2)	52,350	
Communications teachers, postsecondary		(2)	52,050	
English language and literature teachers, postsecondary		(2)	51,310	
Foreign language and literature teachers, postsecondary		(2)	50,410	
History teachers, postsecondary		(2)	56,200	
Philosophy and religion teachers, postsecondary		(2)	53,760	
Graduate teaching assistants	128,470	(2)	25,420	
Home economics teachers, postsecondary		(2)	53,650	
Recreation and fitness studies teachers, postsecondary		(2)	46,480	
Vocational education teachers, postsecondary		20.35	42,340	18
	367,300	10.45	21,730	9
Preschool teachers, except special education				l ·
Preschool teachers, except special education  Kindergarten teachers, except special education	162,560	(2)	42,040	
		(2) (2)	42,040 44,080	

Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002% Continued

Continued	<u> </u>			
Occupation	Employment	Mean	wages	Median hourly
Оссирации	Linployment	Hourly	Annual <sup>1</sup>	wages
Education, training, and library occupations ¾ Continued				
Middle school teachers, except special and vocational education	582,620	(2)	\$44,110	(2)
Vocational education teachers, middle school	17,730	(2)	44,650	(2)
Secondary school teachers, except special and vocational education	984,600	(2)	46,010	(2)
Vocational education teachers, secondary school	106,920	(2)	45,850	(2)
Special education teachers, preschool, kindergarten, and elementary school	211,530	(2)	45,510	(2)
Special education teachers, middle school	89,350	(2)	44,150	(2)
Special education teachers, secondary school	134,870	(2)	47,270	(2)
Adult literacy, remedial education, and GED teachers and instructors	61,440 136,780	19.94 15.82	41,470 32,910	17.50 14.09
Archivists, curators, and museum technicians	20,100	19.11	39,750	16.96
Librarians	156,920	21.36	44,430	20.72
Library technicians	111,240	12.16	25,280	11.58
Audio-visual collections specialists	9,040	17.01	35,370	15.56
Farm and home management advisors	12,760	20.12	41,850	18.96
Instructional coordinators	90,350	23.80	49,510	22.77
Teacher assistants	1,227,220	(2)	19,930	(2)
Arts, design, entertainment, sports, and media occupations	00 000	00.55	00.700	00.74
Art directors	23,200	33.55	69,790 43,750	29.74 16.95
Fine artists, including painters, sculptors, and illustrators	10,280	21.03	43,750	
	34,150	24.45	50,860 54,160	21.14
Commercial and industrial designers	35,270	26.04	54,160	25.12
Fashion designers	10,310	28.93	60,160	24.66
Floral designers	66,480	9.90	20,600	9.37
Graphic designers	141,830	19.89	41,380	17.64
Interior designers	40,670	21.04	43,770	18.84
Merchandise displayers and window trimmers Set and exhibit designers	53,350 8,280	12.25 17.91	25,470 37,250	10.84 16.28
Actors	52,560	(2)	42,820	(2)
Producers and directors	50,780	( <sup>2</sup> )	61,500	(2)
Athletes and sports competitors	10,400	(2)	92,540	(2)
Coaches and scouts	87,720	( <sup>2</sup> )	34,170	(2)
Umpires, referees, and other sports officials	9,190	(2)	27,010	(2)
Dancers	16,580	13.17	27,390	10.14
Choreographers	15,320	16.24	33,790	14.17
Music directors and composers	8,980	(2)	39,270	(2)
Musicians and singers	53,940	(2)	48,240	(2)
Announcers	49,790	14.03	29,190	9.91
News analysts, reporters and correspondents	61,100	18.83	39,160	14.67
Public relations specialists	136,360	22.40	46,590	20.05
Editors	106,520	22.60	47,010	19.79
Technical writers	44,780	25.63	53,310	24.32
Writers and authors	41,990	24.18	50,300	20.57
Interpreters and translators	18,600	16.78	34,900	15.67
Audio and video equipment technicians	35,770	17.57	36,550	14.96
Broadcast technicians	31,520	16.44	34,200	13.35
Radio operators	2,510	16.53	34,380	15.16
Sound engineering technicians	11,110	22.00	45,750	17.77
Photographers	63,140	13.85	28,810	11.56
Camera operators, television, video, and motion picture  Film and video editors	21,370 15,180	17.73 21.42	36,880 44,540	15.73 18.40
	13,160	21.42	44,540	10.40
Healthcare practitioner and technical occupations  Chiropractors	20,630	40.12	83,440	31.41
Dentists	92,460	64.11	133,350	59.24
Dietitians and nutritionists	45,150	20.16	41,920	19.79
Optometrists	23,040	45.89	95,440	41.39
Pharmacists	219,390	36.13	75,140	37.04
Anesthesiologists	24,780	87.22	181,420	(3)
Family and general practitioners	115,020	65.51	136,260	62.79
Internists, general	50,380	76.13	158,350	(3)
Obstetricians and gynecologists	19,970	86.37	179,640	(3)
Pediatricians, general	27,320	68.44	142,360	64.11
PsychiatristsSurgeons	19,750 51,580	65.01 91.15	135,220 189,590	62.95 (³)
Physician assistants	61,910	30.53 51.65	63,490	31.09 45.61
Podiatrists Registered nurses	7,490	23.96	107,430	23.12
Audiologists	2,239,530 10,180	24.92	49,840 51,840	23.12
Occupational therapists	78,580	25.50	53,040	24.99
Ουστρατιστιαι τησταρίστο	70,500	20.00	55,040	24.33
See feetnates at and of table				

Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002% Continued

Continued		Mean	wages	Modion bourly	
Occupation	Employment	Hourly	Annual <sup>1</sup>	Median hourly wages	
Healthcare practitioner and technical occupations ¾ Continued					
Physical therapists	130,290	\$28.93	\$60.180	\$27.56	
Radiation therapists		28.90	60,110	24.35	
Recreational therapists		15.23	31,670	14.68	
Respiratory therapists	85,350	19.57	40,700	19.34	
Speech-language pathologists		24.75	51,490	23.77	
Veterinarians	42,900	35.44	73,720	30.33	
Medical and clinical laboratory technologists	, ,	21.00	43,670	20.63	
Medical and clinical laboratory technicians		14.58	30,330	13.96	
Dental hygienists	, ,	27.78	57,790	26.59	
Cardiovascular technologists and technicians		18.12	37,680	17.52	
Diagnostic medical sonographers		23.90	49,710	23.40	
Nuclear medicine technologists		25.13 19.30	52,260 40,150	23.44 18.74	
Emergency medical technicians and paramedics		12.78	26,570	11.55	
Dietetic technicians	28,910	11.59	24,100	10.81	
Pharmacy technicians	, ,	11.15	23,200	10.70	
Psychiatric technicians		13.49	28,060	12.36	
Respiratory therapy technicians	, ,	16.79	34,930	16.41	
Surgical technologists		15.36	31,960	15.00	
Veterinary technologists and technicians		11.56	24,050	11.03	
Licensed practical and licensed vocational nurses		15.53	32,300	15.12	
Medical records and health information technicians	145,270	12.49	25,980	11.49	
Opticians, dispensing		13.38	27,830	12.31	
Orthotists and prosthetists	4,480	25.68	53,410	22.24	
Occupational health and safety specialists and technicians	39,060	22.85	47,530	22.12	
Athletic trainers	13,500	(2)	36,070	(2)	
Healthcare support occupations					
Home health aides	,	9.16	19,050	8.70	
Nursing aides, orderlies, and attendants		9.87	20,540	9.59	
Psychiatric aides	56,260	11.42	23,760	11.04	
Occupational therapist assistants		17.76	36,950	17.62	
Occupational therapist aides	, ,	11.78	24,510	10.60	
Physical therapist assistants		17.48	36,360	17.34	
Physical therapist aides		10.63	22,120	9.94	
Massage therapists		16.21 13.42	33,720	13.75 13.10	
Dental assistants			27,910		
Medical equipment preparers	, ,	11.93 11.50	24,810 23,910	11.51 11.04	
Medical transcriptionists		13.33	27,730	13.05	
Pharmacy aides	,	9.47	19,700	8.86	
Veterinary assistants and laboratory animal caretakers		9.07	18,870	8.55	
Protective service occupations					
First-line supervisors/managers of correctional officers	31,210	22.59	47,000	21.60	
First-line supervisors/managers of police and detectives	109,530	29.64	61,650	29.33	
First-line supervisors/managers of fire fighting and prevention workers	60,900	27.28	56,750	26.66	
Fire fighters	273,850	18.04	37,530	17.42	
Fire inspectors and investigators	12,140	22.11	46,000	21.64	
Forest fire inspectors and prevention specialists	1,450	19.58	40,720	18.04	
Bailiffs	14,390	16.47	34,250	15.73	
Correctional officers and jailers	,	16.66	34,650	15.71	
Detectives and criminal investigators	88,460	25.46	52,960	24.71	
Fish and game wardens	7,080	21.12	43,920	19.72	
Parking enforcement workers		14.07	29,260	13.52	
Police and sheriff's patrol officers		20.86	43,390	20.32	
Transit and railroad police	6,010	22.00	45,750	21.01	
Animal control workers	- , -	12.49	25,980	11.91	
Private detectives and investigators		16.47	34,250	14.09	
Gaming surveillance officers and gaming investigators	, ,	11.79	24,520	11.11	
Security guardsCrossing guards		10.13 9.79	21,060 20,370	9.20 8.98	
	. 5,520	30	20,0.0	3.00	
	1	45.00	20.000	40.40	
Food preparation and serving related occupations	100 100	15.38	32,000 26,590	13.43 11.73	
Chefs and head cooks		12 79			
Chefs and head cooksFirst-line supervisors/managers of food preparation and serving workers	661,050	12.78			
Chefs and head cooks First-line supervisors/managers of food preparation and serving workers Cooks, fast food	661,050 582,630	7.18	14,930	6.90	
Chefs and head cooks First-line supervisors/managers of food preparation and serving workers Cooks, fast food Cooks, institution and cafeteria	661,050 582,630 416,710	7.18 9.23	14,930 19,190	6.90 8.72	
Chefs and head cooks  First-line supervisors/managers of food preparation and serving workers  Cooks, fast food  Cooks, institution and cafeteria.  Cooks, restaurant	661,050 582,630 416,710 715,520	7.18 9.23 9.54	14,930 19,190 19,850	6.90 8.72 9.16	
Chefs and head cooks First-line supervisors/managers of food preparation and serving workers Cooks, fast food Cooks, institution and cafeteria	661,050 582,630 416,710 715,520 223,030	7.18 9.23	14,930 19,190	6.90 8.72	

Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002¾ Continued

		Mean	wages	Median hourly
Occupation	Employment	Hourly	Annual <sup>1</sup>	wages
Food preparation and serving related occupations 3/4 Continued				
Bartenders	453,390	\$8.12	\$16,900	\$7.21
Combined food preparation and serving workers, including fast food	2,000,070	7.28	15,150	6.97
Counter attendants, cafeteria, food concession, and coffee shop	466,270	7.74	16,090	7.32
Waiters and waitresses	2,086,120	7.58	15,770	6.80
Food servers, nonrestaurant	193,980	8.21	17,070	7.52
Dining room and cafeteria attendants and bartender helpers	404,210	7.37	15,330	6.99
Dishwashers		7.41	15,410	7.15
Hosts and hostesses, restaurant, lounge, and coffee shop	295,170	7.76	16,130	7.36
Building and grounds cleaning and maintenance occupations First-line supervisors/managers of housekeeping and janitorial workers	204,710	14.63	30,430	13.53
First-line supervisors/managers of landscaping, lawn service, and				
groundskeeping workers		17.41	36,220	15.89
Janitors and cleaners, except maids and housekeeping cleaners	2,052,090	9.69	20,150	8.77
Maids and housekeeping cleaners	912,340	8.33	17,330	7.90
Pest control workers	57,370	12.58	26,180	11.90
Landscaping and groundskeeping workers	792,170	10.33	21,490	9.5
Pesticide handlers, sprayers, and applicators, vegetation	22,000	12.48	25,960	11.94
Tree trimmers and pruners	43,530	12.92	26,870	12.07
Personal care and service occupations				
Gaming supervisors		19.32	40,180	18.89
Slot key persons		11.80	24,540	11.00
First-line supervisors/managers of personal service workers		15.45	32,130	13.92
Animal trainers	-,	13.08	27,210	11.03
Nonfarm animal caretakers	86,700	9.01	18,750	8.21
Gaming dealers		7.82	16,270	6.78
Gaming and sports book writers and runners	13,820	9.95	20,700	8.97
Motion picture projectionists	9,600	9.82	20,420	7.97
Ushers, lobby attendants, and ticket takers	106,050	7.93	16,490	7.02
Amusement and recreation attendants	225,100	7.87	16,360	7.18
Costume attendants	3,660	12.93	26,890	11.62
Locker room, coatroom, and dressing room attendants	21,660	8.55	17,780	8.14
Embalmers	6,790	17.38	36,160	16.46
Funeral attendants		9.52	19,800	8.75
Barbers	18,350	10.77	22,390	9.40
Hairdressers, hairstylists, and cosmetologists	330,730	10.63	22,110	9.12
Makeup artists, theatrical and performance	830	15.44	32,120	11.89
Manicurists and pedicurists	31,350	9.04	18,810	8.33
Shampooers	15,410	7.30	15,190	6.9
Skin care specialists	15,580	12.33	25,650	10.80
Baggage porters and bellhops	57,650	10.79	22,440	8.58
Concierges	16,770	11.39	23,680	10.44
Tour guides and escorts	28,480	9.63	20,040	8.90
Travel guides	4,960	14.25	29,640	12.55
Flight attendants	104,360	(2)	50,460	(2
Transportation attendants, except flight attendants and baggage porters	26,580	10.07	20,940	9.00
Child care workers	456,260	8.32	17,310	7.86
Personal and home care aides	451,040	8.07	16,790	7.8
Fitness trainers and aerobics instructors		14.38	29,910	11.5
Recreation workers		9.89	20,580	8.69
Residential advisors		10.77	22,410	9.98
Sales and related occupations				
First-line supervisors/managers of retail sales workers	' '	16.72	34,770	14.2
First-line supervisors/managers of non-retail sales workers		30.90	64,270	25.49
Cashiers	' '	8.02	16,680	7.4
Gaming change persons and booth cashiers	. 32,930	9.66	20,090	9.42
Counter and rental clerks		9.64 12.82	20,040 26,670	8.3 <sup>5</sup> 11.5 <sup>5</sup>
Retail salespersons		10.46	21,750	8.5°
Advertising sales agents	141,360	22.89	47,610	18.1
		25.86	53,800	19.5
Insurance sales agents  Securities, commodities, and financial services sales agents			,	
		41.21 13.64	85,710 28 370	29.3
Travel agentsSales representatives, wholesale and manufacturing, technical and scientific	. 104,550	13.64	28,370	12.8
products	. 371,580	30.51	63,460	26.80
Sales representatives, wholesale and manufacturing, except technical	37 1,300	30.31	05,400	20.00
and scientific products	1,375,380	24.58	51,130	20.54
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 $\begin{tabular}{ll} \textbf{Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002} § A continued $ a continued $$ 

Continued		Mean	Modian bourly	
Occupation	Employment	Hourly	Annual <sup>1</sup>	Median hourly wages
Sales and related occupations ¾ Continued				
Demonstrators and product promoters	101,420	\$12.19	\$25,360	\$9.80
Models		12.15	25,280	10.29
Real estate brokers	40,810	34.68	72,130	24.20
Real estate sales agents	. 125,960	20.42	42,470	14.87
Sales engineers		33.27	69,200	30.61
Telemarketers	,	10.74	22,330	9.40
Door-to-door sales workers, news and street vendors, and related workers	25,780	14.48	30,120	12.18
Office and administrative support occupations				
First-line supervisors/managers of office and administrative support workers		20.22	42,060	18.66
Switchboard operators, including answering service  Telephone operators		10.56 14.11	21,970 29,340	10.19 13.75
1 Stophistic Spotatore	10,120		20,010	10.70
Bill and account collectors		13.62	28,330	12.88
Billing and posting clerks and machine operators		13.04	27,120	12.55
Bookkeeping, accounting, and auditing clerks		13.77	28,650	13.16
Gaming cage workers		10.77	22,400	10.47
Payroll and timekeeping clerks	- ,	14.50	30,150	13.94
Procurement clerks	,	14.61	30,380	14.23
Tellers	. 526,750	9.97	20,750	9.81
Brokerage clerks	. 75,480	17.09	35,540	15.97
Correspondence clerks		13.01	27,060	12.48
Court, municipal, and license clerks		14.04	29,210	13.12
Credit authorizers, checkers, and clerks		13.92	28,960	12.83
Customer service representatives		13.58	28,240	12.62
Eligibility interviewers, government programs	,	15.59	32,440	14.91
File clerks		10.19	21,190	9.63
Hotel, motel, and resort desk clerks	. 176,140	8.71	18,110	8.35
Interviewers, except eligibility and loan	. 190,390	11.07	23,020	10.43
Library assistants, clerical	. 113,760	10.04	20,880	9.35
Loan interviewers and clerks		14.09	29,300	13.38
New accounts clerks		12.80	26,620	12.11
Order clerks		12.67	26,350	11.93
Human resources assistants, except payroll and timekeeping		15.16	31,530	14.62
Receptionists and information clerks		10.56 13.78	21,970 28,670	10.17 12.19
· · · · · · · · · · · · · · · · · · ·				
Cargo and freight agents		16.03	33,350	15.10 9.32
Couriers and messengers Police, fire, and ambulance dispatchers		9.96 13.89	20,720 28,900	13.30
Dispatchers, except police, fire, and ambulance		15.70	32,660	14.56
Meter readers, utilities		14.74	30.660	13.86
Postal service clerks		18.72	38,930	19.08
Postal service cieros	-,	18.80	39,110	19.00
Postal service mail sorters, processors, and processing machine operators		16.86	35,080	18.34
Production, planning, and expediting clerks		16.87	35,080	16.18
Shipping, receiving, and traffic clerks		12.02	24,990	11.26
Stock clerks and order fillers		10.21	21,240	9.26
Weighers, measurers, checkers, and samplers, recordkeeping	.,,	12.85	26,740	11.62
Executive secretaries and administrative assistants	1,407,950	16.85	35,050	16.06
Legal secretaries	, ,	17.59	36,580	16.84
Medical secretaries.		12.83	26,690	12.23
Secretaries, except legal, medical, and executive		12.69	26,390	12.16
Computer operators	172,640	15.21	31,640	14.26
Data entry keyers		11.15	23,190	10.77
Word processors and typists		13.38	27,830	12.85
Desktop publishers		16.21	33,730	15.20
Insurance claims and policy processing clerks		14.95	31,090	13.88
Mail clerks and mail machine operators, except postal service		10.64	22,130	10.19
Office clerks, general		11.32	23,540	10.19
Office machine operators, except computer		11.25	23,400	10.47
Proofreaders and copy markers		12.62	26,240	11.68
Statistical assistants	. 22,330	15.00	31,190	14.17
Farming, fishing, and forestry occupations				1
First-line supervisors/managers of farming, fishing, and forestry workers	. 20,910	17.78	36,970	16.43
Farm labor contractors		12.61	26,220	7.39
Agricultural inspectors	. 13,760	15.09	31,380	13.76
Animal breeders	1,590	14.11	29,340	12.06
Graders and sorters, agricultural products		8.50	17,670	7.67
Agricultural equipment operators		9.25	19,240	8.31
Farmworkers and laborers, crop, nursery, and greenhouse	218,020	7.86	16,340	7.24
			1	

Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002 % Continued

Continued		Mean	wages	Modian hourly
Occupation	Employment	Hourly	Annual <sup>1</sup>	Median hourly wages
Farming, fishing, and forestry occupations ¾ Continued				
Farmworkers, farm and ranch animals	38,260	\$8.93	\$18,560	\$8.22
Forest and conservation workers	9,140	10.93	22,730	9.12
Fallers	10,180	15.43	32,090	13.54
Logging equipment operators	29,060 4,730	13.39 13.87	27,850 28,840	12.88 13.08
Construction and extraction occupations				
First-line supervisors/managers of construction trades and extraction workers	508,620	24.50	50,960	22.92
Boilermakers	24,560	20.46	42,550	20.17
Brickmasons and blockmasons	109,900	20.48 17.08	42,600	20.11 16.36
Stonemasons  Carpenters	12,870 856,750	17.71	35,530 36,840	16.44
Carpet installers	38,320	16.79	34,920	15.67
Floor layers, except carpet, wood, and hard tiles	14,840	16.82	34,990	16.15
Floor sanders and finishers	7,740	14.51	30,180	13.22
Tile and marble setters	33,550	18.15	37,740	17.20
Cement masons and concrete finishers  Terrazzo workers and finishers	177,930	16.25	33,800	14.74
Construction laborers	6,130 830,860	14.82 13.73	30,830 28,570	13.42 11.90
Paving, surfacing, and tamping equipment operators	58,760	15.62	32,490	13.87
Pile-driver operators	4,670	22.10	45,980	21.84
Operating engineers and other construction equipment operators	343,710	18.42	38,320	16.94
Drywall and ceiling tile installers	111,600	17.48	36,350	16.21
Tapers	33,320	19.49	40,550	18.75
Electricians	593,010	21.11	43,910	19.90
Glaziers	46,950	16.67	34,660	15.20
Insulation workers	51,740	15.63	32,500	13.91
Painters, construction and maintenance	257,140	15.20	31,620	13.98
PaperhangersPipelayers	9,450 52,380	16.21 15.26	33,720 31,740	15.22 13.70
Plumbers, pipefitters, and steamfitters.	438,560	20.49	42,630	19.31
Plasterers and stucco masons	54,290	17.07	35,500	15.91
Reinforcing iron and rebar workers	29,540	19.54	40,640	17.66
Roofers	117,140	15.88	33,020	14.51
Sheet metal workers Structural iron and steel workers	197,110 74,700	18.08 20.37	37,620 42,360	16.62 19.55
Helpersbrickmasons, blockmasons, stonemasons, and tile and marble setters	60,740	13.06	27,170	11.73
Helperscarpenters	97,900	10.90	22,670	10.34
Helperselectricians	97,690	11.80	24,540	11.10
Helperspainters, paperhangers, plasterers, and stucco masons	31,320	10.70	22,260	9.66
Helperspipelayers, plumbers, pipefitters, and steamfitters  Helpersroofers	78,570 21,940	11.30 10.47	23,510 21,780	10.69 9.85
Construction and building inspectors	75.190	20.71	43.070	20.01
Elevator installers and repairers	20,920	25.74	53,540	25.99
Fence erectors	21,730	12.10	25,170	10.65
Hazardous materials removal workers	37,350	17.12	35,610	15.61
Highway maintenance workers	146,290	14.06	29,250	13.65
Rail-track laying and maintenance equipment operators	10,450	16.75	34,840	16.90
Septic tank servicers and sewer pipe cleaners	15,530 2,100	14.30 14.25	29,750 29,630	13.43 12.95
Derrick operators, oil and gas	14.120	15.28	31.780	14.34
Rotary drill operators, oil and gas	13,110	17.46	36,320	16.23
Service unit operators, oil, gas, and mining	12,310	15.13	31,480	13.78
Earth drillers, except oil and gas	19,830	16.56	34,450	15.62
Explosives workers, ordnance handling experts, and blasters	4,850	17.33	36,050	16.88
Continuous mining machine operators	8,100	17.06	35,490	16.75
Mine cutting and channeling machine operators	5,060	18.02	37,490	18.07
Rock splitters, quarryRoof bolters, mining	2,610 3,980	13.49 18.28	28,070 38,020	12.58 18.47
Roustabouts, oil and gas	31,960	11.62	24,160	10.71
Helpersextraction workers	28,690	12.86	26,750	12.12
Installation, maintenance, and repair occupations				
First-line supervisors/managers of mechanics, installers, and repairers	433,640	24.05	50,030	22.87
Computer, automated teller, and office machine repairers	135,380	16.73	34,810	15.98
Radio mechanics	6,960 195,680	18.37	38,210 45,550	17.42 22.78
Telecommunications equipment installers and repairers, except line installers	195,680 21,710	21.90 20.39	45,550 42,410	22.78
Electric motor, power tool, and related repairers	28,720	16.36	34,030	15.49
Electrical and electronics installers and repairers, transportation equipment	17,320	18.56	38,590	18.56
Electrical and electronics repairers, commercial and industrial equipment	82,320	19.60	40,760	19.77
See footnotes at end of table				

Occupation	Employment	Mean wages		Median hourly
		Hourly	Annual <sup>1</sup>	wages
Installation, maintenance, and repair occupations ¾ Continued				
Electrical and electronics repairers, powerhouse, substation, and relay	20.040	\$24.02	\$49,970	\$24.85
Electronic equipment installers and repairers, motor vehicles	15,200	13.27	27,600	12.51
Electronic home entertainment equipment installers and repairers	30,600	14.01	29,150	13.08
Security and fire alarm systems installers	43,310	16.53	34,390	15.56
Aircraft mechanics and service technicians	125,850	20.97	43,620	20.71
Automotive body and related repairers	175,370	16.93	35,200	15.71
Automotive glass installers and repairers	19,710	13.49	28,050	12.93
Automotive glass installers and repairers.  Automotive service technicians and mechanics	687,380	15.79	32,830	14.71
Bus and truck mechanics and diesel engine specialists	254,470	17.01	35,380	16.53
Farm equipment mechanics	32,330	13.44	27,950	13.03
Mobile heavy equipment mechanics, except engines	113,340	17.69	36,790	17.29
	13,520	18.35	38,170	18.78
Rail car repairers Motorboat mechanics	18,550	14.57	30,310	13.97
	· ·			
Motorcycle mechanics	13,030	13.80	28,690	13.03
Outdoor power equipment and other small engine mechanics	25,170	12.47	25,950	11.93
Bicycle repairers	7,000	9.62	20,000	9.25
Recreational vehicle service technicians	12,490	13.72	28,530	13.02
Tire repairers and changers	81,560	10.45	21,730	9.69
Mechanical door repairers	10,730	15.42	32,080	14.03
Control and valve installers and repairers, except mechanical door	36,720	20.54	42,730	20.90
Heating, air conditioning, and refrigeration mechanics and installers	206,870	17.51	36,430	16.78
Home appliance repairers	34,750	15.47	32,180	14.61
Industrial machinery mechanics	179,640	18.95	39,410	18.26
Maintenance and repair workers, general	1,212,620	14.91	31,010	14.12
Maintenance workers, machinery	90,500	16.23	33,750	15.63
Millwrights	67,900	20.50	42,630	20.19
Refractory materials repairers, except brickmasons	3,330	17.43	36,240	16.88
Electrical power-line installers and repairers	96,040	22.68	47,170	23.33
Telecommunications line installers and repairers	156,160	19.02	39,560	19.06
Camera and photographic equipment repairers	5,220	15.57	32,390	15.09
Medical equipment repairers	21,770	18.39	38,250	17.49
Musical instrument repairers and tuners	4,870	15.97	33,210	14.15
Watch repairers	3,710	14.09	29,310	12.77
Coin, vending, and amusement machine servicers and repairers	33,520	13.58	28,250	13.16
Commercial divers	2,930	21.93	45,620	16.69
Fabric menders, except garment	2,030	13.74	28,580	12.35
Locksmiths and safe repairers	18,970	14.54	30,250	13.67
Manufactured building and mobile home installers	13,780	11.51	23,940	11.14
Riggers	13,770	17.03	35,420	16.25
Signal and track switch repairers	7,990	20.98	43,640	20.85
Helpersinstallation, maintenance, and repair workers	148,770	11.33	23,560	10.31
Production occupations				
First-line supervisors/managers of production and operating workers	700.490	22.08	45,920	20.64
Aircraft structure, surfaces, rigging, and systems assemblers	25.690	18.18	37,810	18.71
Coil winders, tapers, and finishers	34,710	11.88	24,700	11.07
Electrical and electronic equipment assemblers	267,030	11.84	24,640	11.03
Electromechanical equipment assemblers	57,500	12.75	26,510	12.15
Engine and other machine assemblers	49,280	14.93	31,050	14.02
Structural metal fabricators and fitters	87,020	14.42	29,990	13.76
Fiberglass laminators and fabricators	36,470	12.61	26,220	11.83
Team assemblers	1,139,360	11.88	24,710	10.90
Timing device assemblers, adjusters, and calibrators	6,230	12.58	26,160	11.63
Bakers	164 000	40.64	20.422	0.00
	161,820	10.64	22,120	9.89
Butchers and meat cutters	129,840	13.06	27,160	12.26
Meat, poultry, and fish cutters and trimmers	150,920	9.03	18,790	8.57
Slaughterers and meat packers	126,460	9.81	20,410	9.79
Food and tobacco roasting, baking, and drying machine operators and tenders	19,180	12.06	25,080	11.18
Food batchmakers Food cooking machine operators and tenders	71,930 34,140	11.17 11.13	23,240 23,160	10.54 10.51
1 000 000 king machine operators and tenders	34,140	11.13	25,100	10.51
Computer-controlled machine tool operators, metal and plastic	128,400	14.57	30,310	13.97
Numerical tool and process control programmers	18,910	18.80	39,100	18.04
Extruding and drawing machine setters, operators, and tenders, metal and plastic	96,270	12.83	26,690	12.44
Forging machine setters, operators, and tenders, metal and plastic	44,920	13.90	28,910	12.64
Rolling machine setters, operators, and tenders, metal and plastic	42,270	14.19	29,510	13.62
Cutting, punching, and press machine setters, operators, and tenders,				
metal and plastic	277,410	12.47	25,940	11.81
Drilling and boring machine tool setters, operators, and tenders, metal and plastic	51,730	14.14	29,400	13.23
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders,				
	99,580	13.49	28,070	12.56
metal and plastic	00,000			
metal and plasticLathe and turning machine tool setters, operators, and tenders, metal and plastic	72,270	15.12	31,450	14.55

Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002¾ Continued

Occupation	Employment	Mean wages		Median hourly
		Hourly	Annual <sup>1</sup>	wages
oduction occupations ¾ Continued				
Milling and planing machine setters, operators, and tenders, metal and plastic	30,340	\$14.57	\$30,300	\$14.0
Machinists	368,320	16.06	33,410	15.6
Metal-refining furnace operators and tenders	17,120	15.37	31,970	14.7
Pourers and casters, metal	12,900	14.05	29,230	13.4
Model makers, metal and plastic	8,360	18.92	39,360	18.2
Patternmakers, metal and plastic	6,300	17.03	35,420	16.0
Foundry mold and coremakers	21,960	13.14	27,340	12.5
Molding, coremaking, and casting machine setters, operators, and tenders,				
metal and plastic	147,060 96,560	12.12 14.93	25,200 31,050	11.1 13.7
	,			
Tool and die makers	105,210	20.98	43,630	20.5
Welders, cutters, solderers, and brazers	361,970	14.82	30,820	14.0
Welding, soldering, and brazing machine setters, operators, and tenders	56,280	15.20	31,620	13.9
Heat treating equipment setters, operators, and tenders, metal and plastic	28,410	14.35	29,860	13.5
Lay-out workers, metal and plastic.	12,490	15.67	32,600	14.7
Plating and coating machine setters, operators, and tenders, metal and plastic	41,580	12.87	26,780	12.2
Tool grinders, filers, and sharpeners	22,700	14.94	31,080	14.1
Bindery workers	88,740	11.53	23,970	10.5
Bookbinders	7,170	14.27	29,680	13.3
Job printers	49,080	15.34	31,910	14.4
Prepress technicians and workers	89,370	15.88	33,040	14.9
Printing machine operators	189,590	14.80	30,780	13.9
Laundry and dry-cleaning workers	213,840	8.53	17,750	8.0
Pressers, textile, garment, and related materials	87,130	8.54	17,770	8.2
Sewing machine operators	277,800	8.99	18,710	8.3
Shoe and leather workers and repairers	9,860	9.84	20,460	9.1
Shoe machine operators and tenders	6,320	10.19	21,180	9.9
Sewers, hand.	19,180	9.91	20,610	8.6
Tailors, dressmakers, and custom sewers	29,560	11.75	24,450	10.6
Textile bleaching and dyeing machine operators and tenders	25,950	10.21	21,230	10.0
Textile cutting machine setters, operators, and tenders	32,970	10.35	21,530	9.7
Textile knitting and weaving machine setters, operators, and tenders	49,410	11.16	23,210	11.0
Textile winding, twisting, and drawing out machine setters, operators, and tenders	62,800	10.96	22,810	10.5
Extruding and forming machine setters, operators, and tenders, synthetic	02,000	10.50	22,010	10.0
and glass fibers	26,620	13.32	27,710	13.2
Fabric and apparel patternmakers.	10,800	15.33	31,890	12.6
Upholsterers	40,380	12.78	26,580	11.8
Cabinetmakers and bench carpenters	125,220	12.32	25.630	11.5
Furniture finishers	30,110	11.59	24,110	10.9
Model makers, wood	4,350	13.35	27,770	11.9
Patternmakers, wood.	4,130	14.99	31,170	14.3
Sawing machine setters, operators, and tenders, wood	53,520	11.12	23,130	10.6
Woodworking machine setters, operators, and tenders, except sawing	89,860	11.13	23,160	10.5
Nuclear power reactor operators	3.400	29.76	61,910	29.3
Power distributors and dispatchers	11,670	26.08	54,240	26.0
Power plant operators	34,390	23.61	49,110	24.0
Stationary engineers and boiler operators.	52,510	21.26	44,220	20.
Water and liquid waste treatment plant and system operators	96,970	16.64	34,620	16.0
Chemical plant and system operators	55,910	21.00	43,680	21.
Gas plant operators	11,940	23.24	48,340	23.3
Petroleum pump system operators, refinery operators, and gaugers	38,500	22.85	47,520	23.0
Chemical equipment operators and tenders	56,610	18.29	38,040	18.
Separating, filtering, clarifying, precipitating, and still machine setters, operators,	30,010	10.29	30,040	10.
and tenders	35,550	15.39	32,010	14.
Crushing, grinding, and polishing machine setters, operators, and tenders	44,370	13.46	28,000	12.
Grinding and polishing workers, hand	43,370	11.99	24,940	11.
Mixing and blending machine setters, operators, and tenders	103,940	13.70	28,500	13.
Cutters and trimmers, hand	30,910	11.84	24,630	10.
Cutting and slicing machine setters, operators, and tenders	75,430	12.86	26,760	12.
Extruding, forming, pressing, and compacting machine setters, operators, and tenders	71,500	13.49	28,070	12.
Furnace, kiln, oven, drier, and kettle operators and tenders	29,400	14.27	29,690	13.
Inspectors, testers, sorters, samplers, and weighers	500,250	14.31	29,760	13.
Jewelers and precious stone and metal workers	28,970	14.11	29,350	12.
Dental laboratory technicians.	40,440	15.17	31,560	13.
Medical appliance technicians	11,870	15.07	31,340	13.
Ophthalmic laboratory technicians	32,920	11.18	23,260	10.
Packaging and filling machine operators and tenders	390,380	11.18	23,260	10.
Coating, painting, and spraying machine setters, operators, and tenders	91,950	12.85	26,730	12.
Painters, transportation equipment	45,670	17.17	35,700	16.
Painting, coating, and decorating workers	30,830	11.07	23,020	10.
Painting, coating, and decorating workers				

Table 1. National employment and wage data from the Occupational Employment Statistics survey by occupation, 2002% Continued

Occupation	Employment	Mean wages		Median hourly
		Hourly	Annual <sup>1</sup>	wages
Production occupations ¾ Continued				
Photographic process workers	27,360	\$11.07	\$23,020	\$9.72
Photographic processing machine operators	52,290	10.13	21,080	9.05
Semiconductor processors	43,630	14.01	29,140	13.14
Cementing and gluing machine operators and tenders	26,880	11.81	24,560	11.15
Cleaning, washing, and metal pickling equipment operators and tenders	18,010	11.91	24,780	10.99
Cooling and freezing equipment operators and tenders	7,280	11.41	23,730	10.21
Etchers and engravers	9,130	12.15	25,270	10.79
Molders, shapers, and casters, except metal and plastic  Paper goods machine setters, operators, and tenders	36,240	12.65	26,320	11.87 13.59
Tire builders	114,390 13,020	14.07 17.30	29,260 35,990	18.67
Helpersproduction workers	464,390	9.97	20,730	9.25
Transportation and material moving occupations				
Aircraft cargo handling supervisors	8,920	19.82	41,220	17.90
First-line supervisors/managers of helpers, laborers, and material movers, hand	147,180	18.96	39,430	17.87
First-line supervisors/managers of transportation and material-moving machine	007.000	04.00	45.070	00.00
and vehicle operators	207,280	21.96	45,670	20.63
Airline pilots, copilots, and flight engineers	78,810	(2)	122,230	(2)
Commercial pilots	19,570	(2)	58,000	(2)
Air traffic controllers	23,410 5,910	42.35 19.64	88,090	44.04 17.31
	,		40,850	
Ambulance drivers and attendants, except emergency medical technicians	17,280	10.02	20,840	9.18
Bus drivers, transit and intercity	197,090	14.81	30,810	14.22
Bus drivers, school	468,790	11.01	22,890	10.77
Driver/sales workers	368,730	11.43	23,780	9.92
Truck drivers, heavy and tractor-trailer	1,520,880	16.52	34,350	15.97
Truck drivers, light or delivery services	977,920 125,720	12.65 10.01	26,320 20,830	11.48 8.91
	125,720	10.01	20,030	0.91
Locomotive engineers	28,250	24.66	51,280	23.28
Locomotive firers	710	21.58	44,880	22.02
Rail yard engineers, dinkey operators, and hostlers	4,600	19.52	40,600	18.07
Railroad brake, signal, and switch operators	15,030	21.99	45,750	20.93
Railroad conductors and yardmasters	38,070 7,250	23.69 22.51	49,280 46,810	21.39 23.54
Subway and streetcal operators	7,230	22.51	40,010	23.34
Sailors and marine oilers	25,360	14.69	30,550	13.64
Captains, mates, and pilots of water vessels	22,530	24.73	51,430	23.97
Motorboat operators	3,600	14.71	30,590	12.71
Ship engineers	8,020	25.09	52,190	24.61
Bridge and lock tenders	3,900	15.17	31,560	16.98
Parking lot attendants	108,460	8.30	17,270	7.84
Service station attendants	102,550	8.54	17,770	7.97
Traffic technicians  Transportation inspectors	5,370 28,340	16.50 23.06	34,320 47,970	15.22 23.30
			47,570	23.30
Conveyor operators and tenders	59,240	12.40	25,790	11.66
Crane and tower operators	49,060	18.42	38,320	17.47
Dredge operators	2,850	14.30	29,740	13.33
Excavating and loading machine and dragline operators	67,210	16.77	34,880	15.58
Loading machine operators, underground mining	3,200	15.62	32,480	15.35
Hoist and winch operators	8,970	17.29	35,960	15.09
Industrial truck and tractor operators	586,660	13.34	27,740	12.54
Cleaners of vehicles and equipment	311,070	9.05 10.32	18,830	8.20 9.48
Machine feeders and offbearers	2,217,590 162,670	11.23	21,460 23,360	10.50
Packers and packagers, hand	927,740	8.73	18,160	8.03
Gas compressor and gas pumping station operators	6,920	20.64	42,920	20.44
Pump operators, except wellhead pumpers	12,360	18.58	38,640	17.53
Wellhead pumpers	10,280	16.48	34,290	16.24
Refuse and recyclable material collectors	132,290	12.55	26,090	11.60
Shuttle car operators	3,070	17.81	37,050	18.44
Tank car, truck, and ship loaders	16,960	17.03	35,420	15.63
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<sup>&</sup>lt;sup>1</sup> Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data.

NOTE: Data do not include Guam, the Virgin Islands, and Puerto Rico.

<sup>&</sup>lt;sup>2</sup> Hourly wage rates for occupations where workers typically work fewer than 2,080 hours per year are not available.

<sup>&</sup>lt;sup>3</sup> Represents a wage above \$70.01 per hour.