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## **Occupational Employment and Wages in Houston-The Woodlands-Sugar Land – May 2019**

Workers in the Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area had an average (mean) hourly wage of \$26.20 in May 2019, compared to the nationwide average of \$25.72, the U.S. Bureau of Labor Statistics reported today. Acting Regional Commissioner Susan Mendez noted that, after testing for statistical significance, wages in the local area were higher than their respective national averages in 7 of the 22 major occupational groups, including architecture and engineering, production, and business and financial operations. Seven groups had significantly lower wages than their respective national averages, including building and grounds cleaning and maintenance, healthcare support, and protective service.

When compared to the nationwide distribution, Houston area employment was more highly concentrated in 5 of the 22 occupational groups including construction and extraction, architecture and engineering, and office and administrative support. Nine groups had employment shares significantly below their national representation, including healthcare support; personal care and service, and community and social service. (See [table A](#) and [box note](#) at end of release.)

**Table A. Occupational employment and wages by major occupational group, United States and the Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area, and measures of statistical significance, May 2019**

Major occupational group	Percent of total employment		Mean hourly wage			Percent difference <sup>(1)</sup>
	United States	Houston	United States	Houston		
Total, all occupations .....	100.0	100.0	\$25.72	\$26.20		2
Management .....	5.5	5.4	58.88	60.83	*	3
Business and financial operations .....	5.6	5.1	37.56	40.41	*	8
Computer and mathematical .....	3.1	2.8	45.08	46.28	*	3
Architecture and engineering .....	1.8	2.8	42.69	52.70	*	23
Life, physical, and social science .....	0.9	1.1	37.28	40.49	*	9
Community and social service .....	1.5	0.9	24.27	25.20	*	4
Legal .....	0.8	0.8	52.71	53.01		1
Educational instruction and library .....	6.1	5.8	27.75	27.15		-2
Arts, design, entertainment, sports, and media .....	1.4	1.0	29.79	26.98	*	-9
Healthcare practitioners and technical .....	5.9	5.4	40.21	39.68		-1
Healthcare support .....	4.4	3.6	14.91	12.93	*	-13
Protective service .....	2.4	2.4	23.98	21.69	*	-10
Food preparation and serving related .....	9.2	9.2	12.82	11.76	*	-8
Building and grounds cleaning and maintenance .....	3.0	2.9	15.03	12.83	*	-15
Personal care and service .....	2.2	1.6	15.03	13.88	*	-8
Sales and related .....	9.8	9.8	20.70	21.29		3

Note: See footnotes at end of table.

**Table A. Occupational employment and wages by major occupational group, United States and the Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area, and measures of statistical significance, May 2019 - Continued**

Major occupational group	Percent of total employment			Mean hourly wage			
	United States	Houston		United States	Houston		Percent difference <sup>(1)</sup>
Office and administrative support.....	13.3	13.7	*	19.73	19.79		0
Farming, fishing, and forestry.....	0.3	0.1	*	15.07	16.65		10
Construction and extraction.....	4.2	6.4	*	25.28	23.25	*	-8
Installation, maintenance, and repair .....	3.9	4.4	*	24.10	24.31		1
Production .....	6.2	6.3		19.30	21.50	*	11
Transportation and material moving.....	8.5	8.5		18.23	18.88		4

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area is above the national mean wage, while a negative difference reflects a lower wage.

Note: \* The percent share of employment or mean hourly wage for this area is significantly different from the national average of all areas at the 90-percent confidence level.

One occupational group—architecture and engineering—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Houston had 84,560 jobs in architecture and engineering occupations, accounting for 2.8 percent of local area employment, significantly higher than the 1.8-percent national share. The local average hourly wage for this occupational group was \$52.70, significantly higher than the national average of \$42.69.

Some of the larger detailed occupations within the architecture and engineering group included civil engineers (10,740), petroleum engineers (10,210), and mechanical engineers (8,760). Among the higher-paying jobs in this group were petroleum engineers and chemical engineers, with mean hourly wages of \$88.07 and \$78.04, respectively. At the lower end of the wage scale were surveying and mapping technicians (\$21.98) and civil engineering technologists and technicians (\$28.20). (Detailed data for the architecture and engineering occupations are presented in [table 1](#); for a complete listing of detailed occupations available go to [www.bls.gov/oes/current/oes\\_26420.htm](http://www.bls.gov/oes/current/oes_26420.htm).)

Location quotients allow us to explore the occupational make-up of a metropolitan area by comparing the composition of jobs in an area relative to the national average. (See [table 1](#).) For example, a location quotient of 2.0 indicates that an occupation accounts for twice the share of employment in the area than it does nationally. In the Houston area, above-average concentrations of employment were found in many of the detailed occupations within the architecture and engineering group. For instance, petroleum engineers were employed at 15.1 times the national rate in the Houston area, and chemical engineers, at 6.8 times the U.S. average. These two location quotients in Houston were among the highest in all the published metropolitan areas nationwide for these particular occupations. On the other hand, industrial engineers had a location quotient of 0.9 in the greater Houston area, indicating that this particular occupation’s local and national employment shares were similar.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the Texas Workforce Commission.

## **Changes to the Occupational Employment Statistics (OES) Data**

With the May 2019 estimates, the OES program has begun implementing the 2018 Standard Occupational Classification (SOC) system. Each set of OES estimates is calculated from six panels of survey data collected over three years. Because the May 2019 estimates are based on a combination of survey data collected using the 2010 SOC and survey data collected using the 2018 SOC, these estimates use a hybrid of the two classification systems that contains some combinations of occupations that are not found in either the 2010 or 2018 SOC. These combinations may include occupations from more than one 2018 SOC minor group or broad occupation. Therefore, OES will not publish data for some 2018 SOC minor groups and broad occupations in the May 2019 estimates. The May 2021 estimates, to be published in Spring 2022, will be the first OES estimates based entirely on survey data collected using the 2018 SOC.

In addition, the OES program has replaced some 2018 SOC detailed occupations with SOC broad occupations or OES-specific aggregations. These include home health aides and personal care aides, for which OES will publish only the 2018 SOC broad occupation 31-1120 Home Health and Personal Care Aides.

For more information on the occupational classification system used in the May 2019 OES estimates, please see [www.bls.gov/oes/soc\\_2018.htm](http://www.bls.gov/oes/soc_2018.htm) and [www.bls.gov/oes/oes\\_ques.htm#qf10](http://www.bls.gov/oes/oes_ques.htm#qf10).

The May 2019 OES estimates use the metropolitan area definitions delineated in Office of Management and Budget (OMB) Bulletin 17-01, which add a new Metropolitan Statistical Area (MSA) for Twin Falls, Idaho. For more information on the area definitions used in the May 2019 estimates, please see [www.bls.gov/oes/current/msa\\_def.htm](http://www.bls.gov/oes/current/msa_def.htm).

## **Technical Note**

The Occupational Employment Statistics (OES) survey is a semiannual survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES data available from BLS include cross-industry occupational employment and wage estimates for the nation; over 580 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-digit, most 4-digit, and selected 5- and 6-digit industry levels, and national estimates by ownership across all industries and for schools and hospitals. OES data are available at [www.bls.gov/oes/tables.htm](http://www.bls.gov/oes/tables.htm).

The OES survey is a cooperative effort between BLS and the State Workforce Agencies (SWAs). BLS funds the survey and provides the procedures and technical support, while the State Workforce Agencies collect most of the data. OES estimates are constructed from a sample of about 1.1 million establishments. Each year, two semiannual panels of approximately 180,000 to 200,000 sampled establishments are contacted, one panel in May and the other in November. Responses are obtained by mail, Internet or other electronic means, email, telephone, or personal visit. The May 2019 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2019, November 2018, May 2018, November 2017, May 2017, and November 2016. The unweighted sampled employment of 83 million across all six semiannual panels represents approximately 57 percent of total national employment. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 71 percent based on establishments and 68

percent based on weighted sampled employment. The sample in the Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area included 9,601 establishments with a response rate of 37 percent. For more information about OES concepts and methodology, go to [www.bls.gov/oes/current/oes\\_tec.htm](http://www.bls.gov/oes/current/oes_tec.htm).

A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

The May 2019 OES estimates are the first set of OES estimates to be based in part on survey data collected using the 2018 SOC. These estimates use a hybrid of the 2010 and 2018 SOC systems. More information on the hybrid classification system is available at [www.bls.gov/oes/soc\\_2018.htm](http://www.bls.gov/oes/soc_2018.htm).

The May 2019 OES estimates are based on the 2017 North American Industry Classification System (NAICS). More information about the 2017 NAICS is available at [www.bls.gov/bls/naics.htm](http://www.bls.gov/bls/naics.htm)

### **Metropolitan area definitions**

The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget.

The **Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area** includes Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties in Texas.

### **Additional information**

Answers to frequently asked questions about the OES data are available at [www.bls.gov/oes/oes\\_ques.htm](http://www.bls.gov/oes/oes_ques.htm). Detailed information about the OES program is available at [www.bls.gov/oes/oes\\_doc.htm](http://www.bls.gov/oes/oes_doc.htm).

Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

**Table 1. Employment and wage data for architecture and engineering occupations, Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area, May 2019**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Architecture and engineering occupations .....	84,560	1.6	\$52.70	\$109,620
Architects, except landscape and naval .....	2,570	1.2	50.41	104,860
Landscape architects .....	410	1.0	37.53	78,050
Cartographers and photogrammetrists.....	480	2.0	30.57	63,590
Surveyors .....	1,460	1.6	35.16	73,130
Aerospace engineers .....	1,770	1.3	61.77	128,480
Bioengineers and biomedical engineers .....	230	0.6	47.16	98,100
Chemical engineers.....	4,230	6.8	78.04	162,330
Civil engineers.....	10,740	1.7	51.87	107,890
Computer hardware engineers.....	600	0.4	51.42	106,950
Electrical engineers.....	4,290	1.1	53.58	111,450
Electronics engineers, except computer .....	2,110	0.8	54.46	113,270
Environmental engineers.....	1,440	1.3	59.30	123,340
Health and safety engineers, except mining safety engineers and inspectors .....	1,540	2.9	51.18	106,450
Industrial engineers .....	5,400	0.9	63.39	131,850
Marine engineers and naval architects.....	440	1.9	51.25	106,610
Materials engineers .....	1,100	2.0	55.75	115,970
Mechanical engineers .....	8,760	1.4	51.83	107,800
Mining and geological engineers, including mining safety engineers.....	340	2.6	35.87	74,600
Petroleum engineers .....	10,210	15.1	88.07	183,190
Engineers, all other .....	3,480	1.1	63.40	131,870
Architectural and civil drafters .....	3,060	1.5	29.50	61,350
Electrical and electronics drafters .....	1,340	2.7	28.59	59,460
Mechanical drafters .....	2,010	1.8	30.92	64,320
Drafters, all other.....	290	1.0	25.42	52,870
Aerospace engineering and operations technologists and technicians .....	(5)	(5)	37.59	78,190
Civil engineering technologists and technicians.....	2,010	1.4	28.20	58,650
Electrical and electronic engineering technologists and technicians .....	3,030	1.2	33.64	69,980
Environmental engineering technologists and technicians .....	400	1.1	37.32	77,610
Industrial engineering technologists and technicians.....	2,010	1.4	32.72	68,050
Mechanical engineering technologists and technicians .....	1,520	1.7	33.34	69,350
Surveying and mapping technicians.....	2,730	2.5	21.98	45,720
Calibration technologists and technicians and engineering technologists and technicians, except drafters, all other....	3,650	2.0	29.44	61,240

Footnotes:

(1) For a complete listing of all detailed occupations in the Houston-The Woodlands-Sugar Land, TX Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_26420.htm](http://www.bls.gov/oes/current/oes_26420.htm)

(2) Estimates for detailed occupations may not sum to the totals due to rounding, and because the totals may include occupations that not shown separately. Estimates do not include self-employed workers.

(3) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

(4) 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.

(5) Estimates not released.