



Engineers: Employment, pay, and outlook

Elka Torpey | February 2018

Did you use roads, electronics, or appliances today? Thank an engineer.


Engineers have a role in creating a variety of structures and products, from airports to zippers. If that sounds intriguing, consider a career in engineering. The U.S. Bureau of Labor Statistics (BLS) projects employment growth for these workers, with nearly 140,000 new jobs expected for engineers over the 2016–26 decade. And in 2016, engineers had a median annual wage of \$91,010—more than twice the median wage for all workers.

Read on to see which engineering occupations are projected to have the most new jobs from 2016 to 2026 and which had the highest wages in 2016. You'll also learn about the industries that employ engineers and the typical requirements for entering engineering.

Projected new jobs

BLS prepares employment projections for 18 engineering occupations. Table 1 shows how many of the 139,300 jobs for engineers are expected to be added in each of these occupations from 2016 to 2026.

Table 1. New jobs for engineers, projected 2016–26, and employment and wages, 2016



| | New jobs, projected 2016–26 | Employment, 2016 | Median annual wage, 2016 |
|---|--------------------------------|---------------------|-----------------------------|
| Total, all engineers | 139,300 | 1,681,000 | \$91,010 |
| Civil engineers | 32,200 | 303,500 | 83,540 |
| Mechanical engineers | 25,300 | 288,800 | 84,190 |
| Industrial engineers | 25,100 | 257,900 | 84,310 |
| Electrical engineers | 16,200 | 188,300 | 94,210 |
| Engineers, all other | 8,500 | 132,500 | 97,300 |
| Electronics engineers, except computer | 5,100 | 136,300 | 99,210 |
| Petroleum engineers | 5,100 | 33,700 | 128,230 |
| Environmental engineers | 4,500 | 53,800 | 84,890 |
| Aerospace engineers | 4,200 | 69,600 | 109,650 |
| Computer hardware engineers | 4,000 | 73,600 | 115,080 |
| Chemical engineers | 2,500 | 32,700 | 98,340 |
| Health and safety engineers, except mining safety engineers and inspectors | 2,200 | 25,900 | 86,720 |
| Biomedical engineers | 1,500 | 21,300 | 85,620 |
| Marine engineers and naval architects | 1,000 | 8,200 | 93,350 |
| Nuclear engineers | 700 | 17,700 | 102,220 |
| Mining and geological engineers, including mining safety engineers | 600 | 7,300 | 93,720 |
| Materials engineers | 400 | 27,000 | 93,310 |
| Agricultural engineers | 200 | 2,700 | 73,640 |

Source: U.S. Bureau of Labor Statistics, Employment Projections program.

About 23 percent of new jobs for engineers are projected to be for [civil engineers](#), the largest engineering occupation.

[Mechanical](#) and [industrial engineers](#) are second and third in projected job growth among engineers. Together, these two occupations accounted for about 36 percent of new jobs for engineers.

Engineer wages

As table 1 also shows, median annual wages for engineers vary. A median wage is the 50th percentile: half of workers in the occupation made less than that amount, and half made more.

Percentiles show wage ranges within an occupation. For example, entry-level engineers, like entry-level workers in most occupations, usually earn less than the median; engineers with experience are likely to earn more. As the illustration shows, engineers at even the 10th percentile make \$55,670—meaning that more than 90 percent of engineers have wages that are higher than the \$37,040 median for all workers.

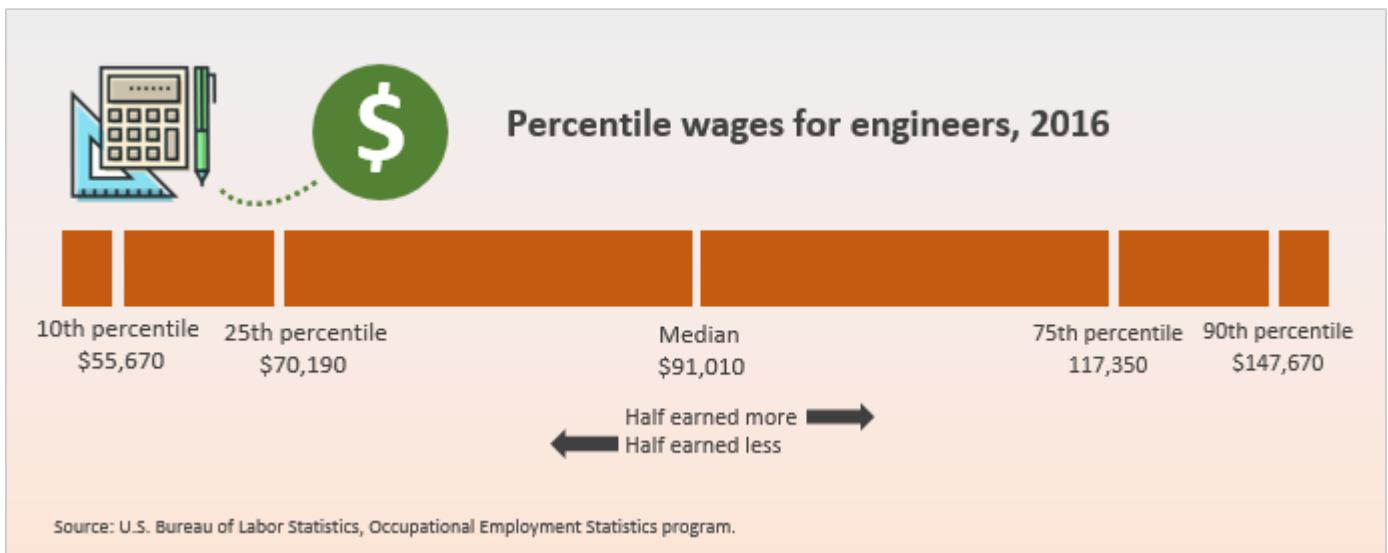
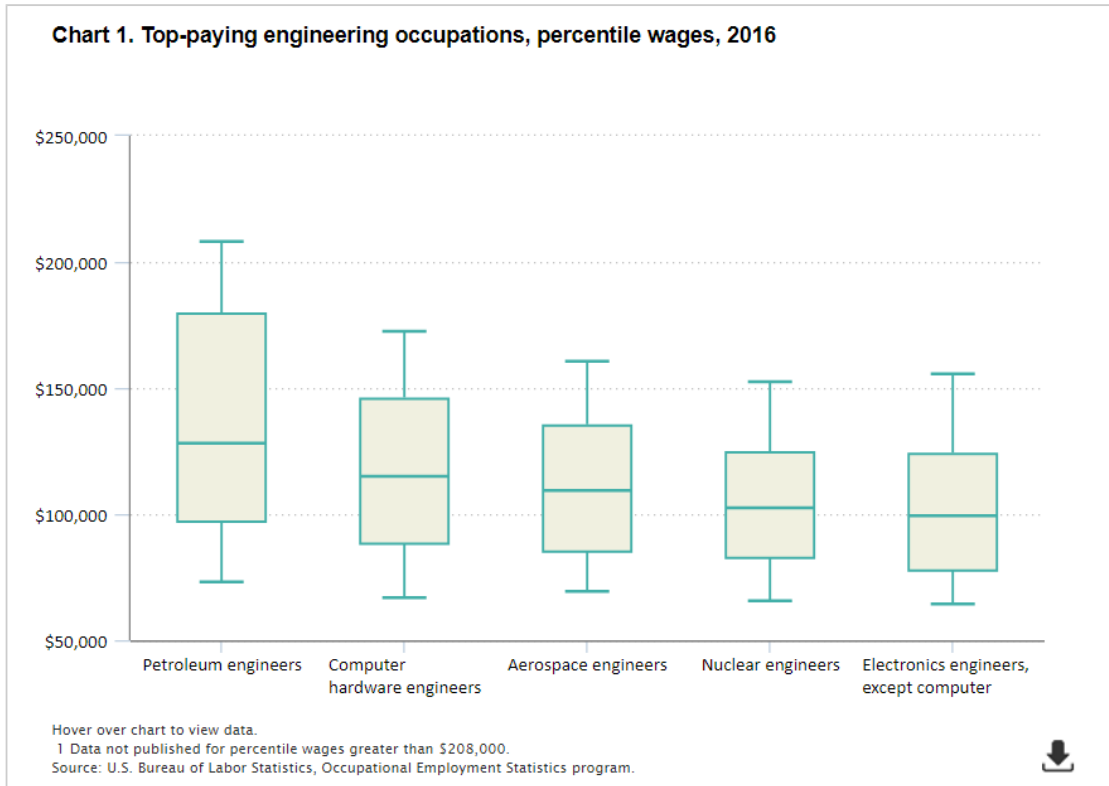
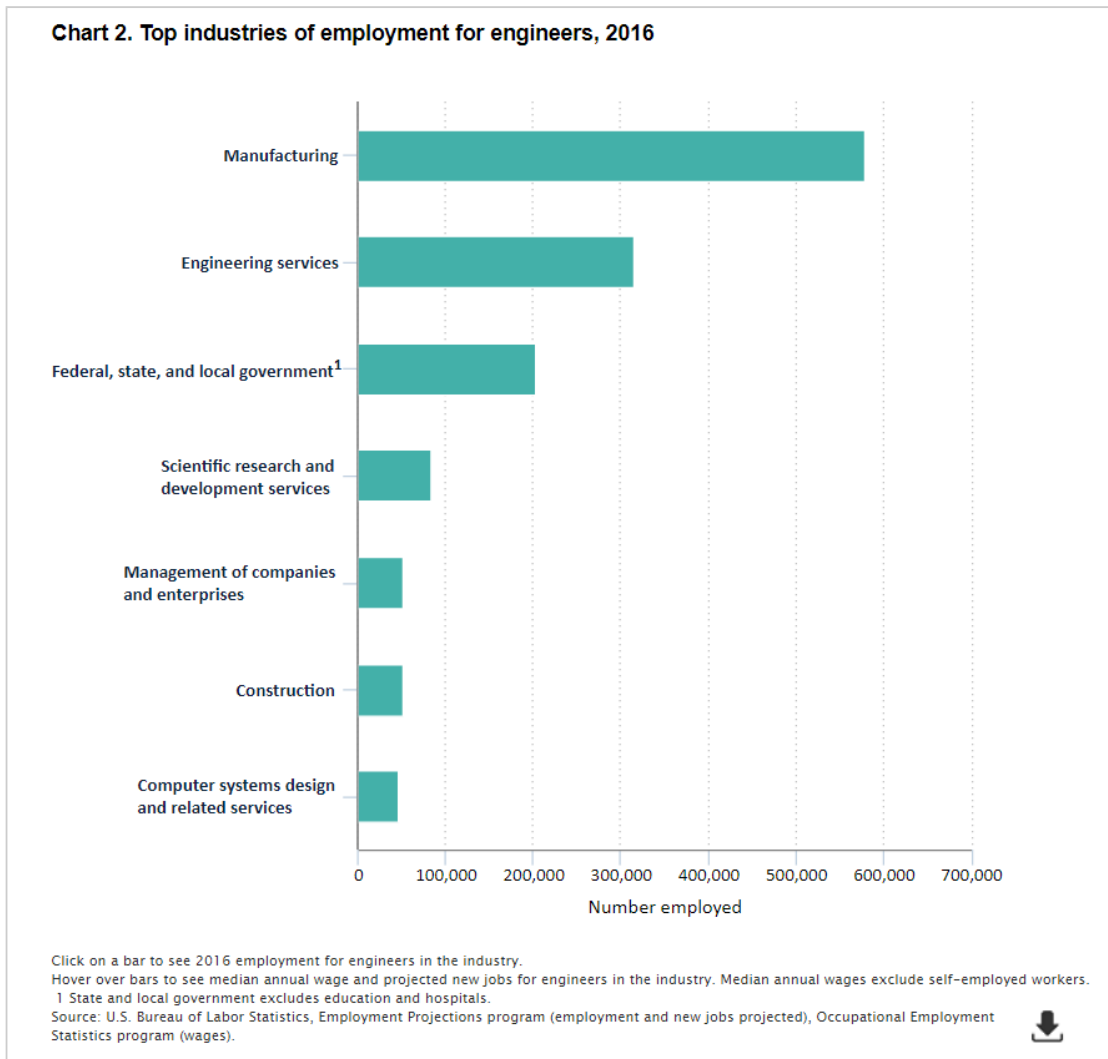


Chart 1 shows percentile wages for the top-paying engineering occupations in 2016. [Petroleum engineers](#) earned a median wage of \$128,230 per year, the highest of all engineers. At the 90th percentile, these workers had an annual wage that was equal to or greater than \$208,000, the top percentile wage for 2016 published by the BLS Occupational Employment Statistics program.



Employment by industry

Manufacturing employed more than 578,000 engineers in 2016, the most of any industry. (See chart 2.) Within manufacturing, the largest number of jobs for engineers were related to the production of computer and electronic products, transportation equipment, and machinery.



All of the industries in the chart are projected to add jobs for engineers from 2016 to 2026. Of the industries shown, engineering services is projected to have the most new jobs—more than 54,000—over the decade.

Different industries employ different types of engineers. For example, the construction industry employs civil, [electrical](#), and [health and safety engineers](#) to ensure that structures and systems are built correctly.

Hover over a bar in the chart to see the number of new jobs projected and the 2016 median annual wage for engineers in the industry. Click on a bar to see the engineering occupations with the most employment in the industry in 2016.

Typical education required

For entry-level engineering jobs, you typically must have a bachelor's degree in an engineering discipline that's related to the type of work you plan to do. Additional education or licensure, or both, may be needed for advancing in the occupation.

Getting practical experience while in college, such as by completing an internship or participating in a cooperative engineering program, also is recommended. But you can start to prepare for an engineering career as early as high school by taking classes such as trigonometry, calculus, and physics.

Engineering-related occupations

Other occupations might require—or benefit from—a background in engineering. Of the occupations in chart 3, all but one typically require a bachelor’s degree or more education at the entry level.

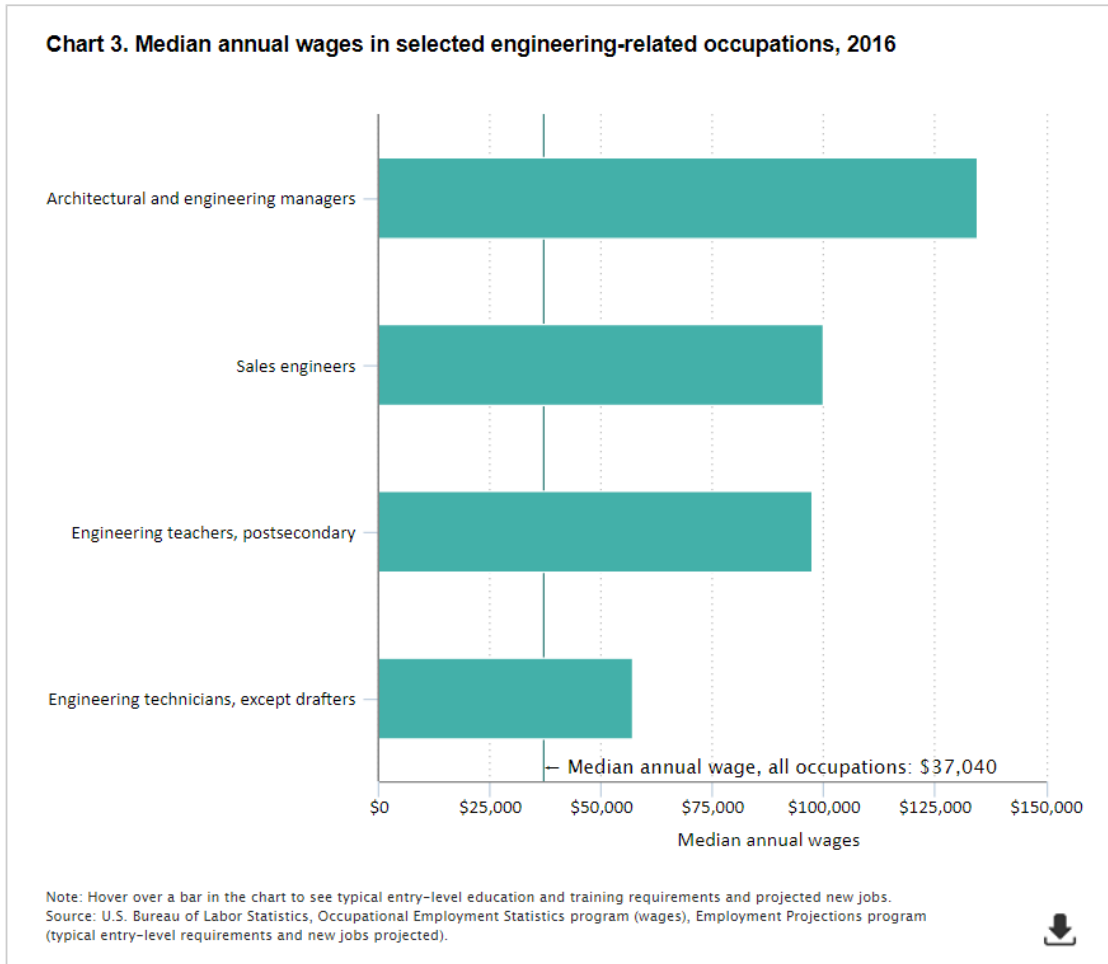


Chart 3 shows that the median annual wages for these engineering-related occupations, like wages for engineers, were higher than the median for all workers in 2016. Together, the occupations in the chart are projected to add 41,500 jobs over the 2016–26 decade.

For more information

Read more about engineers and related careers in the [Occupational Outlook Handbook \(OOH\)](#). The OOH provides information on hundreds of occupations, including descriptions of the work performed, skills needed, and job prospects.

Detailed employment and wage data for engineering occupations by industry and geographic location are available from the [Occupational Employment Statistics](#) survey.

[O*NET](#) has a searchable database with additional information on occupations, such as interests and technology skills needed. You can search occupations by career cluster, outlook, and other criteria.

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