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NEBRASKA
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DEPARTMENT OF LABOR
# Openings & Expansions

*April*

Kermit Spade, Research Analyst

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<td><strong>Health &amp; Fitness</strong></td>
<td>Columbus Community Hospital (Expansion &amp; Renovation)</td>
<td>Columbus</td>
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<td>Norfolk Family YMCA (Expansion)</td>
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<td><strong>Real Estate &amp; Rental</strong></td>
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<td><strong>Other</strong></td>
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<td>Western Nebraska Community College Innovation &amp; Entrepreneurship Center</td>
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</tr>
</tbody>
</table>

*Source:*
Nebraska Department of Labor
Openings and expansions listed are a sampling of activity reported for that month. Some activity may have occurred outside the month. If you have an opening or expansion to report, contact us at LMI_NE@nebraska.gov.
This month’s Map Facts considers the contribution of technology to regional economies by identifying the high-tech industry with the highest location quotient (LQ) in each state. Location quotients are ratios that allow one to compare the distribution of employment in a particular area to that of a larger reference area. They can be used to determine which industries or occupations are most heavily concentrated in a particular region relative to the nation overall.

In this analysis, each state was compared to the United States as a whole. An industry’s LQ within a state is determined by calculating the difference between that industry’s share of total employment within the state and its share of total employment nationwide. If a location quotient is equal to one, then the industry’s share of total employment in the state is the same as the national average. If it is less than one, the industry accounts for a below-average share of the state’s
employment, if it is greater than one, then it has a higher share. For example, if an industry made up 0.5% of all employment in Nebraska, and 0.25% of U.S. employment overall, then that industry’s LQ in Nebraska would be 2.0, indicating that it would be twice as prominent in Nebraska’s economy as in the country as a whole.

The map displays the technology industry with the highest LQ for each state, as of 2017 data. Technology industries were defined using research from the U. S. Bureau of Labor Statistics, which classified industries as “high-tech” based on their level of employment of workers in science, technology, engineering, and math (STEM) occupations. (1)

In Nebraska, data processing, hosting, and related services was the high-tech industry with the highest location quotient of 2.2. The only other state where this industry had the highest location quotient was Missouri, where its LQ was 1.7. (2)

The electronic equipment manufacturing industry had the highest LQ in five states, more than any other industry. Most of these states were found in the southern part of the country (Arkansas, Mississippi, South Carolina, and Tennessee), with the exception of Wisconsin in the Midwest. Location quotients for electronic equipment manufacturing in these states ranged from 1.9 in Tennessee to 5.1 in Wisconsin. (2)

The state with the highest industry LQ was Oklahoma, which had an LQ of 11.8 in oil and gas extraction. The state with the lowest was Kentucky, with an LQ of 1.3 in industrial machinery manufacturing. (2)

Sources:
**Fast Facts**

Scott Ferguson, Research Analyst

## Technology Use in Nebraska

### Percentage of NE Households with No Internet Access* by Economic Region, 2017

- **Panhandle**: 22.8%
- **Mid Plains**: 22.7%
- **Central**: 20.3%
- **Sandhills**: 24.2%
- **Northeast**: 22.5%
- **Southwest**: 22.7%
- **Lincoln MSA**: 12.8%
- **Grand Island MSA**: 21%
- **Omaha Consortium**: 14.8%

*Internet access refers to whether or not a household has an internet connection at home, regardless of whether they pay for the service.

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**80%**

The approximate percentage of Fortune 500 companies that required job candidates to submit their application materials online in 2018. (3)

**2,875**

The number of computers with internet access available for public use throughout Nebraska’s 245 public libraries. (4)

**12.7%**

The percentage of unemployed Nebraskans who did not have internet access in 2017, compared to 7.8% of employed Nebraskans. (2)

**11**

The number of public libraries in Nebraska that reported having 3D printers available for public use, according to the 2016-2017 Nebraska Library Commission Public Library Survey. This represented 4.5% of public libraries statewide. (4)

**89.8%**

The percentage of Nebraska’s public libraries that offer wireless internet access. (4)

**37**

The number of computer and electronic product manufacturing establishments in Nebraska as of 2016. Together, they employed more than 3,800 workers. (5)

**81.3%**

The percentage of Nebraska farms equipped with internet access, compared to 75.4% of all farms nationwide, according to the 2017 Census of Agriculture. (6)

**215%**

The increase in the number of farm-based renewable energy production systems operating in Nebraska in 2017 versus 2012, according to the 2017 Census of Agriculture. (7)
The number of rural cellular towers funded by the Nebraska Universal Service Fund Broadband Program, “created to ensure that all Nebraskans have access to quality telecommunications and information services at affordable and comparable rates,” since its inception in 2011. (3)

The average amount of time that Americans over age 15 said they spent using a computer for leisure on any given weekday, according to 2017 American Time Use Survey conducted by the U.S. Bureau of Labor Statistics (BLS). (8)

The percentage of American adults who use the internet on a daily basis, according to Pew survey data collected in 2018. About 26% of these users say they are online “almost constantly.” (9)

The average amount per month U.S. married couples with children reported spending on cellular phone service, according to the 2017 BLS Consumer Expenditure Survey. (10)

The percentage of eighth-grade students in U.S. public schools who used a computer for homework on any given weekday, according to 2015 data reported by the National Center for Education Statistics. (11)

After controlling for individual, parental, and family characteristics, a 2008 study released by the Board of Governors of the Federal Reserve System found that students with access to home computers were six to eight percentage points more likely to graduate from high school than students without computer access. (12)

Sources:
Nearly all occupations involve the use of some type of technology, but the term “technology jobs” is often used to refer specifically to occupations related to computers. According to the Bureau of Labor Statistics’ Standard Occupational Classification (SOC) system, computer occupations are part of the larger major occupational group of computer and mathematical occupations, and include 13 specific occupational titles. (1)

In 2016, there were approximately 28,833 people employed in computer occupations throughout Nebraska. The outlook for these occupations is bright, with 15% growth (4,315 jobs) projected by 2026—significantly faster than the projected statewide, all-occupations growth rate of 9%. (2)

**Standard Occupational Classification (SOC) of Computer Occupations**


**Overall Outlook**

Software developers of applications were the largest computer occupation in Nebraska in 2016, employing 5,135 workers as of 2016, as illustrated in the chart on page 9. (2) Individuals employed in this occupation “develop, create, and modify general computer applications software or specialized utility programs; analyze user needs and develop software solutions; [and] design software or customize software for client use with the aim of optimizing operational efficiency.” (1) Software developers of applications are expected to continue to be the state’s largest computer occupation through 2026, increasing
by 1,613 during this time period to a total of 6,748 workers, for a growth rate of 31.4%. (2)

Information security analysts are projected to be Nebraska’s fastest-growing computer occupation between 2016 and 2026, with employment rising by 37.7% over the ten-year period, an increase of 257 jobs. (2) Workers employed in this occupation “plan, implement, upgrade, or monitor security measures for the protection of computer networks and information.” They may also “ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure” and “respond to computer security breaches and viruses.” (1)

Most computer occupations require at least a bachelor’s degree, but other technologically-oriented occupations may require a variety of education levels. Computer user specialists, for example, typically require an education level of some college, no degree. An associate degree is typically required for web developers and computer network support specialists. Computer and information research scientists are the only computer occupation to require workers to hold a master’s degree. (2)

Projected Openings

The number of openings an occupation is projected to have during a particular timeframe is based on three factors: labor force exits, transfers, and growth. Labor force exits occur when a person leaves the labor force entirely, through changes such as retirement, death, or leaving the workforce to pursue additional education or stay home with children. Openings due to transfers occur when a worker leaves an occupation and instead accepts a position performing a completely different occupation. Openings from growth are new job openings caused by an overall expansion of the occupation due to increased demand; they are equal to the net change in employment within the occupation. Therefore, the number of growth openings can be negative if an occupation is declining. The combination of openings due to growth, labor force exits, and occupational transfers together make up the occupation’s projected total number of openings. (2)
Computer user support specialists are projected to have more openings due to labor force exits than any other computer occupation in Nebraska from 2016 to 2026, with 899 occurring over the ten-year period. (2) Computer user support specialists “provide technical assistance to computer users” and “answer questions or resolve computer problems for clients in person, or via telephone or electronically.” They also “may provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.” (1) This occupation is expected to have the second-largest number of openings due to occupational transfers of the computer occupations, with 2,277. Combined with the 573 projected growth openings, computer user support specialists are projected to see 3,749 total openings statewide through 2026. (2)

Software developers of applications are projected to see the greatest number of occupational transfers of any of the computer occupations, with 2,917. This occupation is also expected to have the second-largest number of labor force exits, at 812. Combining these figures with the 1,613 openings due to growth projected for this occupation gives software developers of applications Nebraska's highest number of total openings through 2026 of any computer occupation, with 5,342. (2)

Computer systems analysts are projected to see the third-highest number of total openings (2,872), labor force exits (722), and occupational transfers (1,764). (2) Computer systems analysts “analyze science, engineering, business, and other data processing problems to implement and improve computer systems” and “analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations.” They may also “analyze or recommend commercially available software.” (1)

**H3: High Wage, High Skill, High Demand**

All but one computer-related occupation analyzed in this article are considered H3 occupations, meaning high wage, high skill, and high demand. Occupations are classified as H3 by the Nebraska Department of Labor based on rankings determined by their projected demand, their wages in multiple wage categories, and the typical level of education and training required for an entry-level position. (3)

Computer and information research scientists were the only computer occupation that was not classified as H3. While it met the criteria for high wage and high skill, it missed the mark for high demand. However, this occupation is still projected to grow by
25% through 2026, adding 11 new jobs. When including openings from labor force exits and occupational transfers in addition to openings from growth, computer and information research scientists are expected to see 43 total openings during this ten-year span. (3)

Out of all 790 occupations statewide, just 177 made the cut to qualify as H3. When these occupations are ranked by demand score, five computer occupations placed in the top 40. Software developers of applications ranked the highest, at #6. Computer user support specialists ranked #18. Other computer occupations included in the top 40 H3 jobs were computer systems analysts (#29), software developers of systems software (#35), and network and computer systems administrators (#37). (3)

**Occupations by Industry**

The chart above outlines the industries expected to employ the largest numbers of Nebraska’s computer-occupation workers by 2026. The greatest share are likely to work in the professional, scientific, and technical services industry, which is projected to employ a little over one in four (28.5%) of computer occupation workers in 2026. This is up from 2016, in which 25.8% of Nebraskans working in computer occupations were found in this industry. (2)

The second-largest employer of computer-occuption workers is projected to be insurance carriers and related activities, which are expected to employ 11.5% of Nebraska's computer workers by 2026. Businesses in the state’s management of companies and enterprises sector are projected to employ 8.7%. Another 6.8% of Nebraskans in computer occupations are expected to work in the data processing, hosting, and related services industry. Administrative and support services (5.5%) and private, state, and local education (5.3%) round out the list. Businesses within these industries are collectively expected to employ a slightly smaller share of Nebraska's computer-occupations workforce by 2026 than they did in 2016, dropping from 39.6% of employment to 37.8%. (2)

**The Final Word**

Computer occupations are expected to see continued growth in Nebraska through 2026, offering tech-savvy workers opportunities to enter promising career paths across a wide range of industries. Whether developing software, working to protect networks from security threats, or providing technical support to computer users, Nebraskans working in computer occupations can expect a bright outlook through the coming decade.

Explore more Nebraska occupations online at neworks.nebraska.gov.

**Sources:**
An initial claim is a request for determination of UI program eligibility filed by an unemployed individual following a separation from an employer. It can serve as an indicator of emerging labor market conditions in the area.¹

**Data Sources:** [Cited: May 22, 2019.]


Average weekly earnings represents the mean pay received by workers for services performed over the course of one week.²

**Data Sources:** [Cited: May 22, 2019.]


This figure represents the average price consumers paid at the pump for a gallon of regular-grade, unleaded gasoline during the specified timeframe. The main components affecting the retail price of gasoline are crude oil prices; costs and profits associated with refining, distribution, and marketing; fluctuations in supply and demand; and federal, state, and local taxes.³

**Data Sources:** [Cited: May 22, 2019.]

The labor force is comprised of all persons age 16 and over in the civilian, noninstitutional population who are either employed or unemployed but available for work and actively seeking employment. It excludes people doing unpaid homemaking or volunteer work, retired people, and people who are not employed and not actively seeking work. The labor force participation rate measures the labor force as a percentage of the total civilian, noninstitutional population, age 16 and over.¹

Data Sources: [Cited: May 22, 2019.]

The consumer price index (CPI) is a measure of the average change over time in the prices paid by consumers for goods and services. It is used to determine the real purchasing power of consumers’ dollars, and as a measure of inflation.⁵

Data Sources: [Cited: May 22, 2019.]

The housing price index (HPI) measures the movement of single-family house prices, based on purchases involving conventional mortgages purchased or securitized by Fannie Mae or Freddie Mac. "Four-quarter" change is relative to the same quarter one year earlier. HPI data are often considered useful for estimating housing affordability and projecting future changes in mortgage default rates.⁶

Data Source: [Cited: May 22, 2019.]
April 2019 County Unemployment Rates

**OMAHA MSA**
(Not Seasonally Adjusted)
April Unemployment Rate: 2.9%
April Total Non-Farm: 507,481
Manufacturing: 32,756

**Largest OTM Increase (Private)**
Professional and Business Services: 2,900 (4.0%)
Mining and Construction: 1,991 (7.0%)

**Largest OTY Increase (Private)**
Professional and Business Services: 3,632 (5.1%)
Mining and Construction: 1,865 (6.6%)

**GRAND ISLAND MSA**
(Not Seasonally Adjusted)
April Unemployment Rate: 3.0%
April Total Non-Farm: 42,239
Change (OTM): 205 (0.5%)
Change (OTY): -21 (-0.1%)

**LINCOLN MSA**
(Not Seasonally Adjusted)
April Unemployment Rate: 2.7%
April Total Non-Farm: 190,925
Manufacturing: 13,586

**Largest OTM Increase (Private)**
Professional and Business Services: 1,026 (3.5%)
Financial Activities: 287 (2.2%)

**Sources:**
Lincoln MSA (Not Seasonally Adjusted)
April Unemployment Rate: 2.7%
April Total Non-Farm: 190,925
Manufacturing: 13,588

Largest OTM Increase (Private)
Mining and Construction: 393 (4.5%)
Professional and Business Services: 364 (1.8%)

Largest OTY Increase (Private)
Education & Health Services: 1,026 (3.5%)
Financial Activities: 287 (2.2%)