

Aligning Muskegon
Community College
Programs to Employer
Demand following
the Pandemic

JANUARY 2022

talent outlook

Prepared by

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Muskegon Community College

The following report contains population, labor force, and employment trends and insights for the 32 ZIP codes located within 30 minutes of Muskegon Community College, in addition to a list of prospective programs and recommendations developed using feedback from faculty members and local employers. More information regarding any of the topics covered throughout the report can be found in the accompanying [data package](#).

EXECUTIVE SUMMARY

- The population within a 30-minute commute of Muskegon Community College (MCC) experienced its seventh consecutive year of growth in 2020, **gaining a net of 1,535 residents over the year** to bring the population of the 32-ZIP code service area to 316,579 — a growth rate of 0.5 percent. The population aged 18 to 24, which comprised nearly two-thirds of total enrollment at the college in 2019 (64.1%), has fallen by -6.4 percent since 2014, a **5-year loss of 1,970 prospective students**.
- As recently as 2019, **57.9 percent of adults (25+) in the MCC service area possessed some form of education beyond high school**. This represents a jump of 3.2 percentage points from the proportion seen in 2014 (54.7%), equating to 11,230 more college-educated adults. The portion of the adult population with an associate degree rose by 0.9 percentage points (2,704 adults) over this five-year period.
- The **unemployment rate in the MCC service area stood at 5.4 percent in 2021**, an increase of 2 percentage points from pre-pandemic levels. However, the labor force endured an even greater disruption, with **over 8,500 no longer working or looking for work in 2021**, reflecting a decline of 3.1 percent. Labor force separations were particularly prominent among women, minorities, and adults without a postsecondary credential.
- Private-sector payroll jobs in the service area have fallen significantly since the pandemic, with **9,017 jobs displaced in 2020** to achieve a year-over-year decline of 7.2 percent — only slightly worse than the rate of -7.0 percent associated with the trough of the Great Recession. **Nearly one-third of all displaced workers were employed in Manufacturing**, which shed 3,308 jobs in 2020, while Arts, Entertainment, and Recreation lost the largest proportion of its workforce (-26.7%; -521 jobs).
- **Employer demand recovered from the pandemic as early as August 2020** and grew to average 12,970 postings per month in 2021, slightly below the peak of 13,986 ads per month observed in 2019. Of the **7,819 middle-skill job openings** posted online since March 2020, **over one-third were associated with roles in Health Care** (2,179 ads), a jump of 4.6 percent from 18 months pre-pandemic. **Registered Nurses accounted for nearly 1 in 4 job openings** (1,951 ads), while **Customer Service Representatives** were the most in-demand middle-skill business role (184 ads) and **Computer User Support Specialists** were the top posted IT occupation (131 ads).
- The service area is **expected to net 1,859 new jobs by 2030**, reflecting a growth rate of 1.6 percent, although **most vacancies will arise from retirements, occupational transfers, or labor force separations**, resulting in an **average of 1,226 middle-skill job openings each year** through 2030.
- **Construction programs comprise the top two prospective associate or certificate programs not currently offered in the service area with the highest unmet demand**. These programs provide in-demand credentials for 14 target occupations, which are expected to see an average of 1,691 job openings each year through 2030 and yield a 10-year projected growth rate of 6.6 percent.
- **MCC's IT programs have the highest projected growth rate** (3.4%) of the four major program areas covered in the Sector Focus section of this report, reflecting 311 new jobs by 2030, while the college's **business programs have the most job openings** (3,128) expected each year through 2030. With 14 completers in 2020, **MCC was able to meet just 1.1 percent of demand for the 27 occupations supplied by the college's applied technology programs**. Improving marketing and employer engagement, embracing hybrid/asynchronous courses, and developing microcredential pathways are the top recommendations for the college to evolve to the post-pandemic economy.

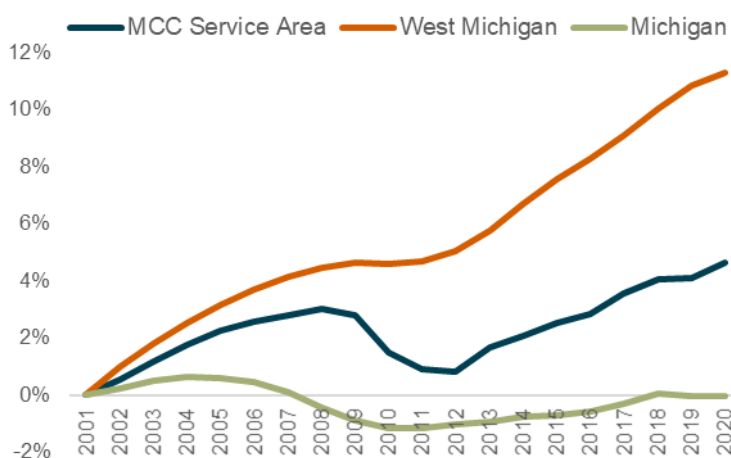
More information regarding any section of this report can be found in the accompanying [data package](#), including detailed breakdowns for each of the 16 major program areas (2-digit CIP) offered at MCC.

Population

In 2020 the population in the Muskegon Community College service area was 316,579. This represents an over-the-year increase of 1,535 from 2019, a growth rate of 0.5 percent and the seventh consecutive year of growth since 2013 — which saw over 5,495 residents added since the end of the Great Recession in 2009, a growth rate of 1.8 percent.

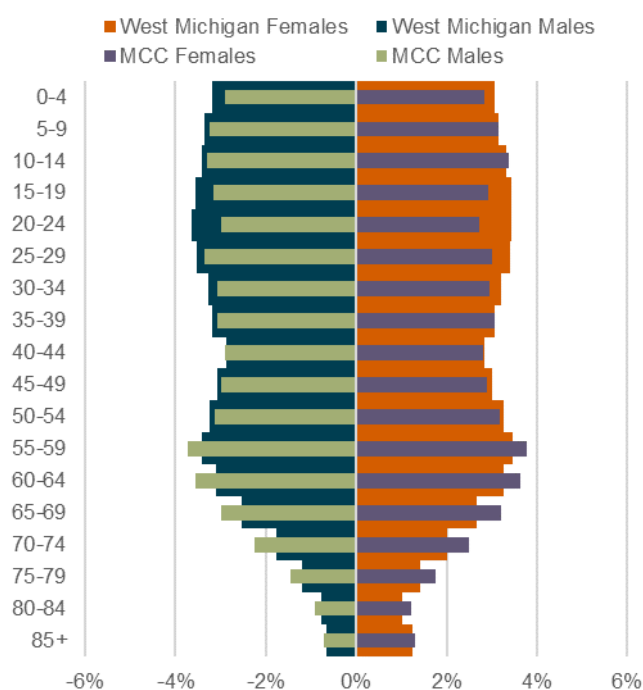
From 2014 to 2019 the population grew from 308,830 to 315,044, or 2.0 percent. The four age brackets with the largest growth over this period were all above the age of 60 (19.0% total; 9,800 residents), with the largest growth attributed to those between the ages of 65 and 69 (24.9%; 3,627 adults), closely trailed by those 70 to 74 (23.2%; 2,462 residents). The working-age population, those ages 25 to 54, fell -2.7 percent (3,136 residents), with the largest loss among those 45 to 49 (-12.7%; 2,715 adults). Additionally, three of the four youngest age brackets in the MCC service area saw a decrease in residents over this five-year period, including ages 0 to 4 (-2.0%; 365 children), 5 to 9 (-1.7%; 342 residents), and 15 to 19 (-6.5%; 1,360 teenagers).

Population Change, Indexed to 2000



Population by Sex and Age, 2019

MCC Service Area and West Michigan



Of the 315,044 individuals living in the MCC service area in 2019, 24.9 percent were under the age of 20 (78,434 residents). This is 1.6 percentage points lower than proportion seen across West Michigan for the same age group (26.5%), reflecting a gap of 5,053 residents, and 0.5 percentage points higher than the proportion seen throughout Michigan (24.5%). Looking a little broader, 54.8 percent of residents in the MCC service area were under the age of 45 in 2019, which is lower than both West Michigan (58.9%) and the state as a whole (56.0%). Nearly 33 percent of the region's population exceeded the age of 54 during this period (32.9%), compared to an average of just 28.5 percent for West Michigan's 13 counties, and 30.8 percent for the state. Compared to West Michigan as a whole, the proportion of those 54 and older in the MCC service area is equivalent to an imbalance of 13,861 additional residents in that age group.

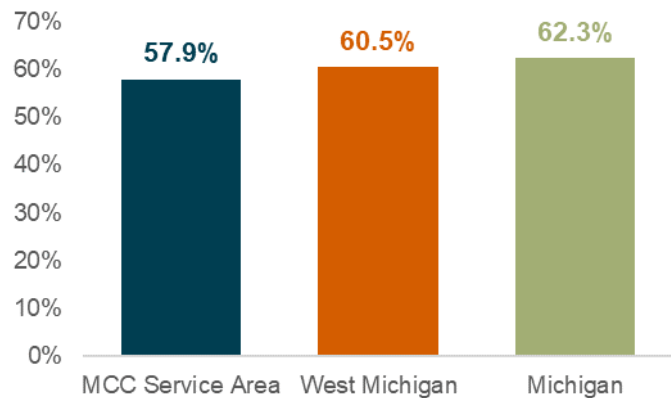
Educational Attainment

The educational attainment of the adult population (ages 25+) within a region serves as a leading indicator of the strength of the labor market. As jobs with low skill requirements become increasingly autonomous and new occupations emerge in our globalized economy, the foundational skills necessary to maintain employment become more stringent. According to estimates from

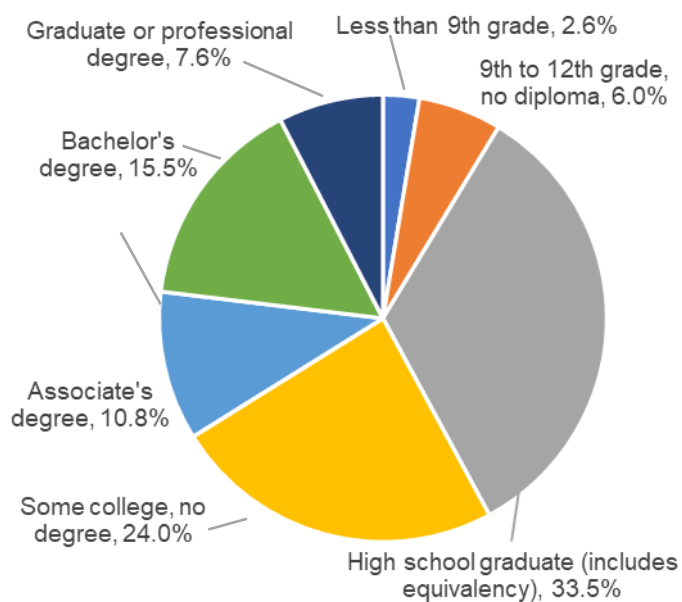
the W.E. Upjohn Institute, 64 percent of the adult population throughout West Michigan’s 13 counties will need some form of education beyond a high school diploma to satisfy the demands of the region’s employers by the year 2025.

Accounting for 122,506 adults within a 30-minute commute of Muskegon Community College, 57.9 percent of the population 25 and older possessed some form of education beyond high school in 2019. This represents an increase of 0.7 percentage points from 2018 (57.2%) and 3.2 percentage points higher than the rate in 2014 (54.7%). The number of adults with a postsecondary credential grew by 10.1 percent over this five-year period, an increase of 11,230, with the largest gains among those with a bachelor’s degree. Since 2014, the number of adults with a bachelor’s degree in the service area has grown by 16.8 percent (5,387) — doubling growth for associate degrees (13.4%; 2,704).

Percentage of Adults with Education Beyond High School, 2019



Educational Attainment (25+) MCC Service Area, 2019



More specifically, 23.1 percent of adults within a 30-minute commute of Muskegon Community College held a Bachelor’s, graduate, or professional degree in 2019, compared to 28.4 percent for the 13-county West Michigan region, and 30.0 percent for the entire state. Over 193,000 adults within MCC’s service area earned a high school diploma or above (91.3%), while the same proportion was 90.9 percent for the adult population in West Michigan and 91.4 percent statewide.

Adult illiteracy affects an estimated one out of every five adults across West Michigan, and still serves as a predominant barrier to employment among those who lack the foundational qualification of a high school education. This would translate to over 18,300 adults in the MCC service area as of

2019, an 8.7 percent share of the adult population, slightly higher than the share statewide (8.6%) and below the share in West Michigan (9.1%).

Commuting Patterns

Commuting patterns serve as an effective method to identify labor sheds, both at the regional and sub-regional levels. This can help employers determine where to channel recruitment efforts, and provide education and training providers with insights into variances in market demand across ZIP codes and counties.

Data regarding 2019 commuting patterns for the 32 ZIP codes located within a 30-minute commute of Muskegon Community College were updated on the U.S. Census Bureau's [OnTheMap](#) online tool in November of 2021. These estimates were obtained from employers, covered by unemployment insurance, and from Census data provided by individuals.

Commuting Beyond the Muskegon Community College Service Area

In 2019, 101,855 individuals were employed within the Muskegon Community College service area, irrespective of their place of residence. Of this employed population, 74,366 both lived and worked within the region, accounting for 73 percent of all employees in 2019. Thus, 27,489 employees (27%) lived beyond the boundaries of the region and commuted into the area for employment. Conversely, 140,419 individuals were considered residents of the service area during the relevant year. Approximately 47 percent, or 66,053 residents, commuted out of the area for employment. Since 2002, the share of residents commuting outside the service area for work has steadily risen, growing by 10.1 percent over this 17-year period. The most popular ZIP codes for those commuting outside of the region for work in 2019 included Grand Rapids (49503), Holland (49424), Holland (49423), and Zeeland (49464).

Commuting over Time in the MCC Service Area

Year	Inflow	Internal	Outflow	Employed in area	Residing in area	Inflow / All Employed	Outflow / All Residing
2019	27,489	74,366	66,053	101,855	140,419	27.0%	47.0%
2018	28,336	74,724	64,122	103,060	138,846	27.5%	46.2%
2017	28,810	74,747	63,282	103,557	138,029	27.1%	49.7%
2016	27,333	74,276	59,990	101,609	134,266	26.9%	44.7%
2015	26,930	69,919	58,264	96,849	128,183	27.8%	45.5%
2014	27,422	71,964	58,182	99,386	130,146	27.6%	44.7%
2013	25,516	67,268	53,762	92,784	121,030	27.5%	44.4%
2012	25,175	65,741	52,882	90,916	118,623	27.7%	44.6%
2011	23,898	63,944	50,959	87,842	114,903	27.2%	44.3%
2010	23,699	63,920	53,138	87,619	117,058	27.0%	45.4%
2009	24,221	65,322	51,930	89,543	117,252	27.0%	44.3%
2008	25,868	72,586	54,052	98,454	126,638	26.3%	42.7%
2007	24,662	76,474	53,082	101,136	129,556	24.4%	41.0%
2006	23,259	80,141	50,140	103,400	130,281	22.5%	38.5%
2005	22,068	81,353	50,822	103,421	132,175	21.3%	38.5%
2004	21,980	79,187	48,677	101,167	127,864	21.7%	38.1%
2003	21,609	78,759	49,243	100,368	128,002	21.5%	38.5%
2002	22,268	82,540	48,273	104,808	130,813	21.2%	36.9%

Commuting Within the Muskegon Community College Service Area

Muskegon County

In 2019, 59,507 individuals were employed across Muskegon County, irrespective of their place of residence. Of this employed population, 37,053 both lived and worked within the county, accounting for 62.3 percent of all employees in 2019. Thus, 22,454 employees (37.7%) lived beyond the boundaries of the county and commuted into the area for employment. Conversely, 76,903 employed individuals were considered residents of Muskegon County during the relevant year. Approximately 51.8 percent, or 39,850 residents, commuted out of the area for employment. The most popular destinations for those commuting outside of the county for work in 2019 included Grand Rapids, Grand Haven, Kentwood, Walker, and Holland.

Newaygo County

According to the U.S. Census Bureau, 11,906 individuals were employed in Newaygo County in 2019. Approximately 52.4 percent of the area's workers lived within the county, while 47.6 percent of the employed population commuted into the county for work. The residential population consisted of 20,595 employed individuals, with 6,238 residents (30.3%) remaining within the county's limits during their commute to work. Thus, 69.7 percent of those living in Newaygo travelled beyond the boundaries of the county during their commute to work in 2019. The top destinations for residents commuting out of Newaygo for work were Grand Rapids, Muskegon, Kentwood, Walker, and Wyoming.

Oceana County

There were 5,844 individuals employed in Oceana County in 2019. Approximately 60.4 percent of the area's workers lived within the county, accounting for 3,531 individuals, while 39.6 percent of the employed population commuted into the county for work. The county's residential population consisted of 10,829 employed individuals, with 32.6 percent remaining within the county's limits during their commute to work. Thus, 67.4 percent of those living in Oceana ventured beyond the boundaries of the county during their commute to work in 2019. The top destinations for residents commuting out of Oceana for employment were the cities of Muskegon, Whitehall, Grand Rapids, Fremont, and Montague.

Ottawa County

There were 131,099 individuals employed in Ottawa County in 2019. Approximately half of the area's workers lived within the county, accounting for 65,733 individuals, while 49.9 percent of the employed population commuted into the county for work. The residential population consisted of 142,728 employed individuals, with 46.1 percent remaining within the county's limits during their commute to work. Thus, 53.9 percent of those living in Ottawa ventured beyond the boundaries of the county during their commute to work in 2019. The top destinations for residents commuting out of Ottawa for work were the cities of Grand Rapids, Wyoming, Kentwood, Grandville, and Muskegon.

Employment Opportunities for Commuters

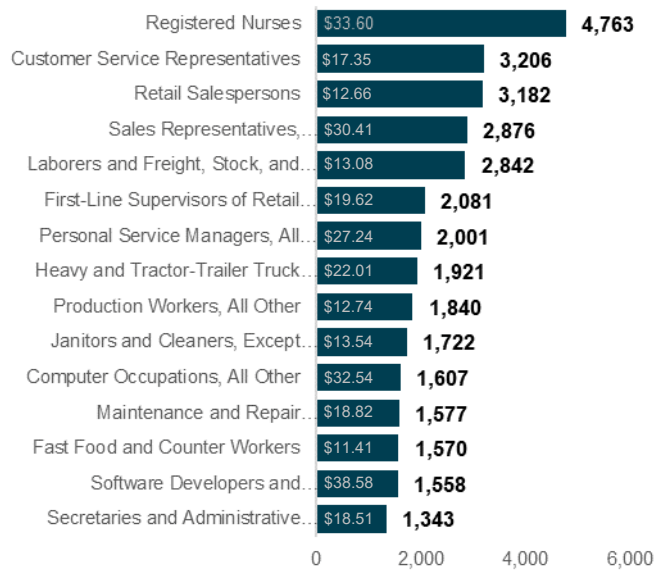
There are several hubs of employment in close proximity to the 32 ZIP codes that comprise Muskegon Community College service area that provide more diverse job opportunities, or higher wages, for the 66,000 residents who commuted outside of the region for work in 2019. Identified below are three of the most popular destinations of work for commuters, each yielding a more robust labor force with higher expected growth, average wages, and more job openings when compared to averages across the service area.

Overview

Combined, the largest cities within close proximity to the MCC service area employed 384,118 workers in 2020, a decline of 7.8 percent from 2019, and are forecasted to gain 9,091 jobs by 2025 (2.4%). The average worker earned \$64,500 in 2020, yet the average salary among the 113,489 job openings posted online from January to October of 2021 was just \$35,500. Over 1 in 5 ads were for openings in *Health Care and Social Assistance* (21.3%; 19,178), but other high-demand industries included *Administrative and Support and Waste Management and Remediation Services* (15.9%; 14,288 ads), *Manufacturing* (12.4%; 11,129), and *Retail Trade* (11.4%; 10,219 ads).

The most advertised occupations over the first 10 months of 2021 included Registered Nurses, with a median hourly wage of \$33.60; Customer Service Representatives (\$17.35); Retail Salespersons (\$12.66); Sales Representatives (\$30.41); and Laborers and Freight, Stock, and Material Movers (\$13.08). Over 40 percent (51,969) of all ads required less than a high school diploma, while 9.7 percent (12,527) required an associate degree, and 22.2 percent (28,687) required a bachelor's degree or higher.

Top Posted Occupations – 2021



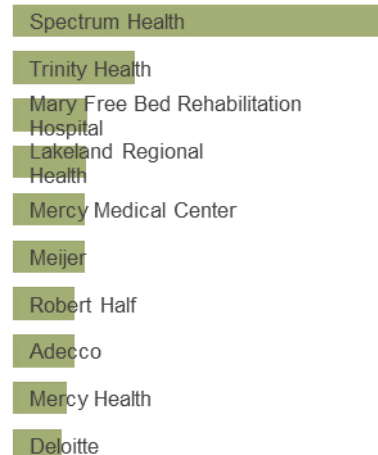
Top Posted Credentials



Top Posted Skills



Top Posting Employers

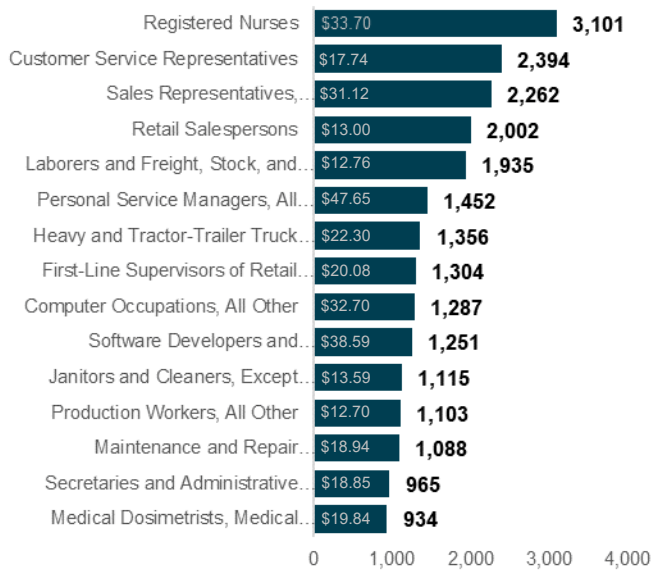


Grand Rapids

The city of Grand Rapids, approximately 40 minutes from Muskegon Community College, employed 273,542 workers in 2020, a drop of 8.0 percent from 2019 — although the city is expected to gain 5,892 jobs by 2025 (2.2%). The average worker earned \$67,300 in 2020, yet the average salary among the 13,823 jobs posted online from January to October of 2021 was just \$35,500. The industries with the largest share of online job ads included *Health Care and Social Assistance*, with 16.6 percent of all ads (12,910), followed by *Administrative and Support and Waste Management and Remediation Services* (11.7%; 9,108 ads), *Manufacturing* (9.2%; 7,194), and *Retail Trade* (7.4%; 5,793 ads).

The most advertised occupations in Holland for the first 10 months of 2021 included Registered Nurses, with a median hourly wage of \$33.70; Customer Service Representatives (\$17.74); Sales Representatives (\$31.12); Retail Salespersons (\$13.00); and Laborers and Freight, Stock, and Material Movers (\$12.76). Over 40 percent (35,605) of all ads required less than a high school diploma, while 9.4 percent (8,374) required an associate degree, and 23.4 percent (20,774) required a bachelor's degree or higher.

Top Posted Occupations – Holland, 2021



Top Posted Credentials

- Commercial Driver's License (CDL)
- Licensed Practical Nurse
- Certified Nursing Assistant
- Bachelor Of Science in Business
- Bachelor Of Science in Nursing (BSN)
- Associate Degree In Nursing
- American Medical Technologists
- NHA Certified
- Master Of Business Administration (MBA)
- Nurse Practitioner

Top Posted Skills

- Nursing
- Auditing
- Warehousing
- Accounting
- Merchandising
- Basic Life Support
- Microsoft Mail
- Selling Techniques
- Finance
- Restaurant Operation

Top Posting Employers

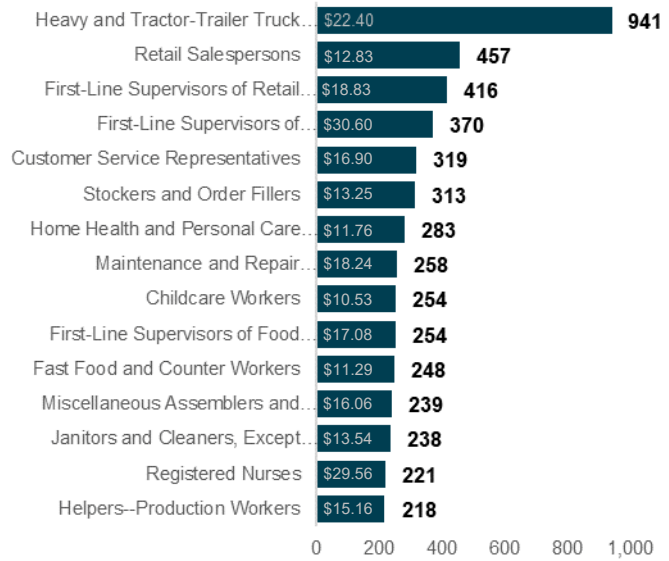
- Spectrum Health
- Mary Free Bed Rehabilitation Hospital
- Meijer, Inc.
- Deloitte
- Rober Half
- Trinity Health
- Adecco
- Kent ISD
- Mercy Medical Center
- Dematic

Holland

The city of Holland, approximately 40 minutes from Muskegon Community College, employed 49,924 individuals in 2020, a 7.3 percent decline from 2019 — although the city is expected to gain 209 jobs by 2025 (0.4%). The average worker earned \$59,800 in 2020, yet the average salary among the 13,823 jobs posted online from January to October of 2021 was just \$38,926. The industries with the largest share of online job ads included *Administrative and Support* and *Waste Management and Remediation Services*, with 15.0 percent of all ads (2,069), followed by *Manufacturing* (13.2%; 1,821 ads), *Retail Trade* (12.3%; 1,697), and *Health Care and Social Assistance* (10.1%; 1,400 ads).

The most advertised occupations in Holland for the first 10 months of 2021 included Heavy and Tractor-Trailer Truck Drivers, with a median hourly wage of \$22.40; Retail Salespersons (\$12.83); First-Line Supervisors of Retail Sales Workers (\$18.83); First-Line Supervisors of Production and Operating Workers (\$30.60); and Customer Service Representatives (\$16.90). Nearly half of all postings (48.8%) required less than a high school diploma, while 7.3 percent (1,098 ads) required an associate degree, and 16.7 percent (2,502 ads) required a bachelor's degree or higher.

Top Posted Occupations – Holland, 2021



Top Posted Credentials

- Commerical Driver's License (CDL)
- Certified Nursing Assistant
- Licensed Practical Nurse
- Bachelor of Science in Business
- ServSafe Certification
- CDL Class B License
- Automotive Service Excellence (ASE) Certification
- Certified Pharmacy Technician
- NHA Certified
- Hazmat Endorsement

Top Posted Skills

- Merchandising
- Restaurant Operation
- Warehousing
- Auditing
- Packaging and Labeling
- Selling Techniques
- Customer Experience
- Personal Protective Equipment
- Cash Register
- Sanitation

Top Posting Employers

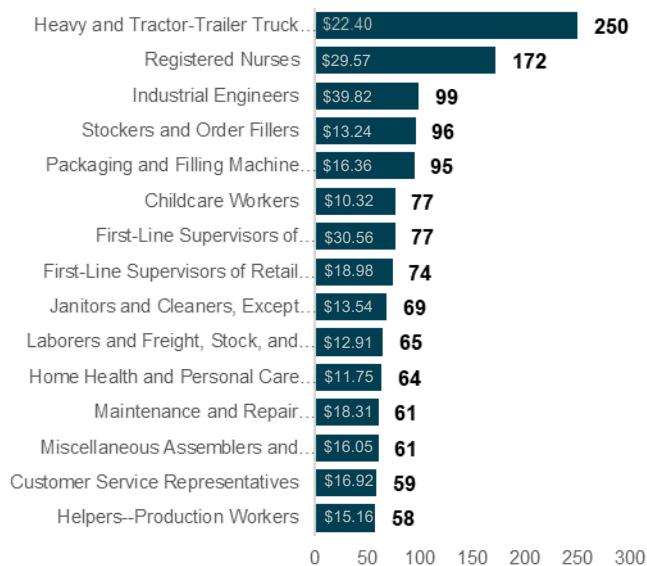
- The City of Holland
- Key Personnel
- Holland Community Hospital
- Manpower Group Global
- The Adecco Group
- Haworth, Inc.
- Wal-Mart, Inc.
- Meijer, Inc.
- Herman Miller, Inc.
- Dematic Corp.

Zeeland

Zeeland, approximately 40 minutes from Muskegon Community College, had 17,359 jobs in 2020, a 6.4 percent decline from 2019 — but the city is expected to see 1.2 percent job growth by 2025, three times the rate of Holland, for a total of 205 jobs. Average earnings were also much higher in Zeeland, at \$66,700 in 2020, with a slightly higher average salary among the 3,482 jobs that were advertised online from January to October of 2021, at \$40,626. *Manufacturing* accounted for over one-fifth of all postings (22.6%; 786 ads), followed by *Administrative and Support and Waste Management and Remediation Services*, (17.3%; 601 ads), *Health Care and Social Assistance* (9.2%; 320 ads), and *Transportation and Warehousing* (6.1%; 212 jobs).

The most advertised occupations in Zeeland over the first 10 months of 2021 included Heavy and Tractor-Trailer Truck Drivers, with a median hourly wage of \$22.40; Registered Nurses (\$29.57); Industrial Engineers (\$39.82); Stockers and Order Fillers (\$13.24); and Packaging and Filling Machine Operators and Tenders (\$16.36). The higher advertised wages in Zeeland can be attributed to the skill level of job openings, as just 40.8 percent of all ads (1,557) required less than a high school diploma, 8.8 percent (336 ads) required an associate degree, and 22.6 percent (862 ads) required a bachelor's or higher.

Top Posted Occupations – Zeeland, 2021



Top Posted Credentials



Top Posted Skills



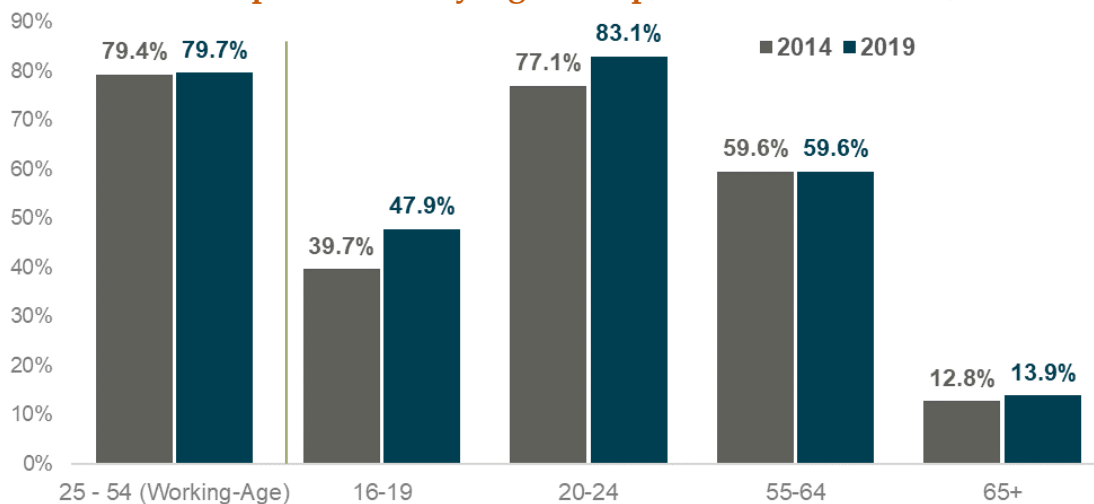
Top Posting Employers



Labor Force and Employment

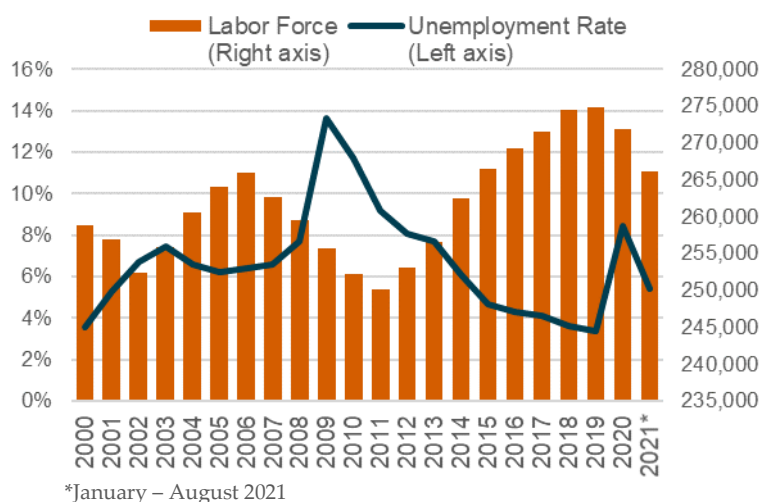
The most widely utilized labor force participation rate comes from the U.S. Bureau of Labor Statistics and consists of the adult (16+) population. Adhering to this definition, the labor force participation rate for adults in the Muskegon Community College service area was 60.1 percent in 2019, compared to 64.6 percent for the 13-county West Michigan region. The working-age labor force participation rate in the service area, banded to adults aged 25 to 54, was 79.7 percent in 2019, with 75.6 percent of the 25-54 population employed and 5.1 percent unemployed yet actively seeking work. Although this rate stands 0.3 percentage points higher than the rate observed for the region in 2014, a shrinking working-age population has resulted in 2,240 fewer participants over the past five years. Since 2014, the labor force participation rate has steadily increased within six of seven age cohorts, with the largest gains attributed to those 16 to 19 years of age and the largest losses among those 25 to 44 years old.

Labor Force Participation Rate by Age Group, MCC Service Area, 2014 to 2019



Labor Force and Unemployment in MCC

Service Area, 2000 to 2021*



*January – August 2021

The unemployment rate in the MCC service area has continued to follow a downward trajectory since reaching a peak of 13.6 percent in 2009, standing at 5.4 percent in 2021. That rate was slightly higher compared to West Michigan (5.1%) and the state (5.0%), but the pandemic-induced spike recorded in 2020 (8.5%) was 1 percentage point lower in the service area than West Michigan (9.5%) and 1.7 percentage points below the statewide rate (10.2%).

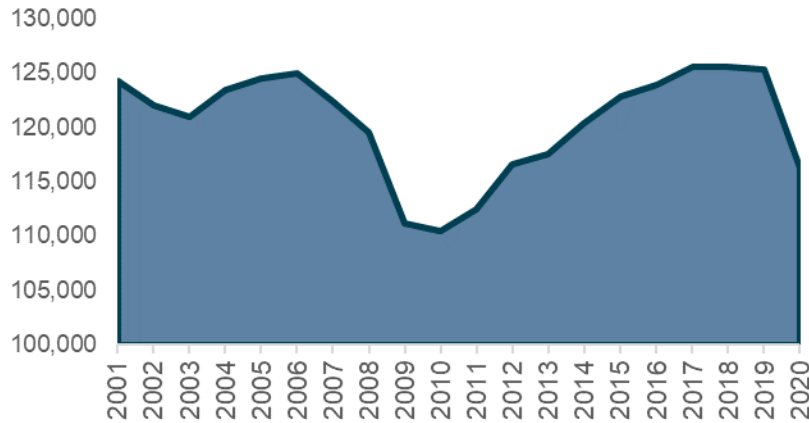
Although the region's unemployment rate remains 2 percentage points higher than pre-pandemic levels, the labor force endured an even greater

disruption. Since 2019, over 8,500 participants have left the labor force in the MCC service area, reflecting a decline of 3.1 percent. This is a significant volume of potential workers who are no longer working or looking for work, but it remains smaller than the portions lost in both West Michigan (-3.3%) and statewide (-3.4%). Labor force separations were particularly prominent among adults without a postsecondary credential, women, and minorities.

Industry Overview

Private-sector payroll jobs in the service area of Muskegon Community College fell significantly from 2019 to 2020, with 9,017 jobs displaced over the year for a decline of 7.2 percent. Although this was the third consecutive year of negative growth for the region, the annual rate has never fallen below -0.2 percent since 2010. The current rate is only slightly worse than the rate of -7.0 percent associated with the trough of the Great Recession, when job counts fell by 8,300 from 2008 to 2009.

**Private Sector Payroll Jobs, MCC Service Area
2001-2020**



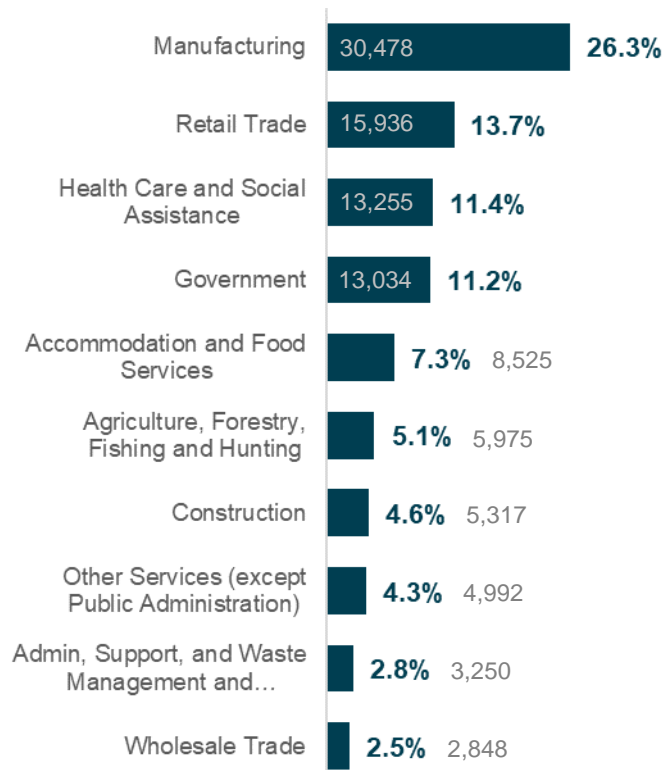
In 2020 there were a total of 116,259 private-sector payroll jobs in the MCC service area, well below the peak of 125,570 jobs recorded in 2017 and nearly identical to the volume recorded in 2012. The lockdown and subsequent stay-at-home orders issued at the height of the pandemic disrupted the region's economy in 2020, but the area fared better than West Michigan and the state as a whole. Private payroll job counts fell by 7.7 percent in West Michigan and 8.1 percent in Michigan.

Employment in 2020

Manufacturing remained the largest industry of employment in the 32-ZIP code service area of Muskegon Community College even amidst the pandemic, accounting for 26.3 percent of total payroll jobs in 2020. The next largest sector for job counts was *Retail Trade* (13.7%), followed by *Health Care and Social Assistance* (11.4%). Combined, these three sectors comprise over half of all jobs in the region (51.4%).

Agriculture, Forestry, Fishing and Hunting remains a modest sector of employment in the MCC service area, yielding nearly 5,975 jobs in 2020, yet the concentration of employment in this industry is four times larger than the national average for an area of this size. Similarly, the concentration of employment in *Manufacturing* is nearly 3.5 times the national average — driven by an unusually high volume of jobs associated with the subindustries of *Custom Roll Forming, Wood Office Furniture Manufacturing, Printed Circuit Assembly Manufacturing, and Spring Manufacturing*.

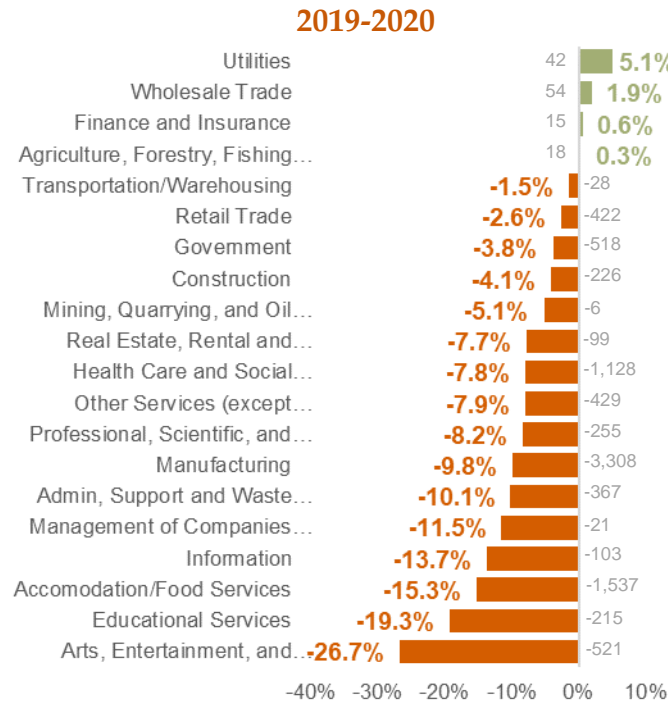
**Jobs by Industry – MCC Service Area
2020**



COVID-Related Job Loss

Following the trend observed across the nation, the industries in the MCC service area most affected by the COVID-19 pandemic were those that required the highest degree of in-person interaction. These industries experienced the highest rates of job loss resulting from the stay-at-home orders and social distancing measures that were enforced for most of 2020.

Job Growth by Industry, MCC Service Area



Arts, Entertainment, and Recreation experienced the largest losses of any industry in the MCC service area, displacing over a quarter of its workforce in 2020 (-521 jobs). Despite comprising just 1.6 percent of total regional employment in 2019, this sector accounted for 5.7 percent of all displaced jobs in 2020. In terms of numeric loss, however, the largest volume of displaced jobs was attributed to *Manufacturing*, which employed 3,308 fewer workers — accounting for nearly one-third of all displaced jobs.

Educational Services endured the second highest rate of job loss in 2020, shrinking by 19.3 percent (-367 jobs). Social distancing contributed to loss in this sector, with many bus drivers furloughed throughout the year, but the greatest factors were likely a result of accelerated retirements and the difficulties that accompanied the transition to virtual learning which drove many from the field.

Industry Outlook

In terms of projected growth, *Mining, Quarrying, and Oil and Gas Extraction* leads the industries in the MCC service area with a 10-year growth rate of 37.9 percent (43 jobs). Although *Transportation and Warehousing* distantly trails with a projected growth rate of 16.8 percent, this industry is expected to gain nearly seven times as many jobs by 2030 — a total of 317 new jobs. However, this is still just a third of the jobs expected to emerge in the region's second largest sector, *Retail Trade*, which is expected to gain the largest number of new jobs, 920, over the 10-year forecasting period.

Conversely, *Information* is expected to see the largest proportionate share of job loss in the region, declining by 27.7 percent over the next 10 years — a loss of 179 jobs. With 481 fewer jobs expected by 2030, *Agriculture, Forestry, Fishing and Hunting* is expected to lose the largest number of jobs (-8.1%).

Projected Growth, MCC Service Area



Occupation Overview

Considering that over one in four jobs in the MCC service area were associated with *Manufacturing* in 2020, it should come as no surprise that Production occupations held the largest volume of jobs in the region compared to any other occupation group — comprising 15.0 percent of total employment (17,472 jobs). Employment and the number of average annual openings expected through 2030 in this broad category were largely driven by four detailed occupation groups, including Miscellaneous Assemblers and Fabricators (2,281 jobs; 228 annual openings), Inspectors, Testers, Sorters, Samplers, and Weighers (1,244 jobs; 142 annual openings), Machinists (1,241 jobs; 122 annual openings), and First-Line Supervisors of Production and Operating Workers (1,166 jobs; 125 annual openings). Just 3.1 percent of employment (533 jobs) and 2.8 percent of average annual openings (54 openings) in this occupation group typically require a postsecondary certificate.

Despite boasting the second largest share of jobs, with 11.7 percent of regional employment, Sales and Related occupations have the most average annual openings of any occupation group in the MCC service area. This is likely a result of increased turnover and higher than average retirement rates expected over the next 10 years, with 14.7 percent of the population (46,285 adults) set to reach retirement age by 2030. Four of the top five occupations in this broad group, with respect to both employment and average annual openings, would be considered entry-level, with just First-Line Supervisors of Retail Sales Workers requiring more than 5 years of experience (1,487 jobs; 168 average annual openings).

Office and Administrative Support occupations employed the third largest share of jobs in 2020, with 8.7 percent of employment in this occupation group concentrated among middle-skill jobs (986 jobs). Bookkeeping, Accounting, and Auditing Clerks led these roles, with 864 jobs in 2020 and an average of 86 job openings anticipated each year through 2030, distantly followed by Order Clerks (66 jobs; 7 annual openings), Human Resources Assistants (47 jobs; 5 annual openings), and Desktop Publishers (9 jobs, 0 annual openings).

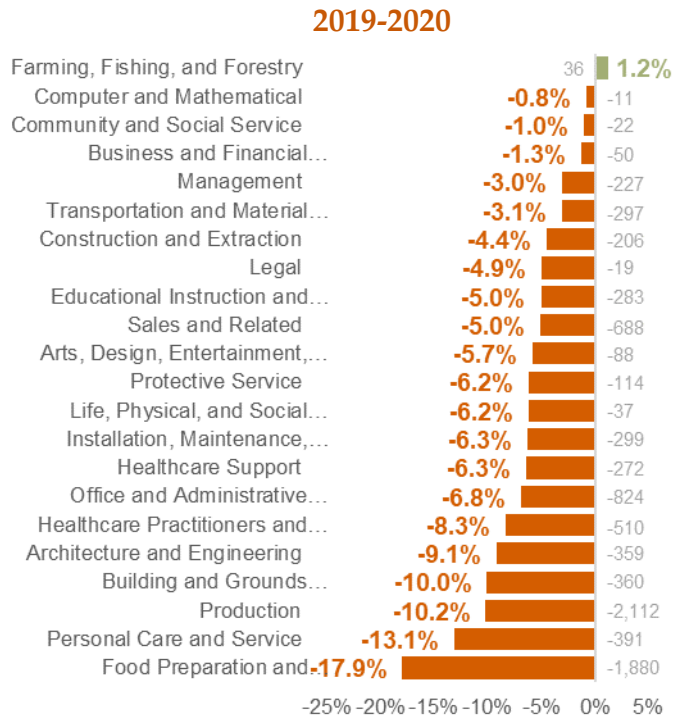
Distribution of Payroll Jobs by Occupation Group, MCC Service Area 2020

Occupation Group	Employment		Median Wage	Annual Openings	
	#	%		#	%
Production	17,472	15.0%	\$18.34	1,917	13.5%
Sales and Related	13,653	11.7%	\$13.27	1,983	14.0%
Office and Administrative Support	11,259	9.7%	\$17.57	1,224	8.6%
Transportation and Material Moving	9,384	8.1%	\$15.18	1,311	9.2%
Food Preparation and Serving Related	8,997	7.7%	\$11.63	1,916	13.5%
Management	6,712	5.8%	\$37.44	609	4.3%
Healthcare Practitioners and Technical	6,178	5.3%	\$30.43	368	2.6%
Educational Instruction and Library	5,174	4.4%	\$22.50	484	3.4%
Construction and Extraction	4,840	4.2%	\$20.49	522	3.7%
Building and Grounds Cleaning and Maintenance	4,542	3.9%	\$13.55	614	4.3%
Installation, Maintenance, and Repair	4,338	3.7%	\$22.15	465	3.3%
Healthcare Support	4,104	3.5%	\$13.66	548	3.9%
Business and Financial Operations	3,960	3.4%	\$29.52	401	2.8%
Architecture and Engineering	3,709	3.2%	\$35.29	326	2.3%
Personal Care and Service	2,610	2.2%	\$11.86	403	2.8%
Community and Social Service	2,034	1.7%	\$22.36	215	1.5%
Farming, Fishing, and Forestry	1,804	1.6%	\$11.19	274	1.9%
Protective Service	1,731	1.5%	\$22.73	204	1.4%
Arts, Design, Entertainment, Sports, and Media	1,432	1.2%	\$19.33	179	1.3%
Computer and Mathematical	1,387	1.2%	\$34.13	129	0.9%
Life, Physical, and Social Science	630	0.5%	\$27.71	69	0.5%
Legal	364	0.3%	\$31.24	25	0.2%

COVID-Related Job Loss

Similar to the trend among industries, the occupations that saw the greatest pandemic-related job losses in the Muskegon Community College service area were those that generally required the highest degrees of interpersonal interaction and those that were unable to transition to remote work.

Job Growth by Occupation, MCC Service Area



Food Preparation and Serving Related occupations experienced the largest decline of any occupation group in the service area, displacing 17.9 percent of its workforce in 2020 (-1,880 jobs) —over one-fifth of all workers displaced throughout the region. Production occupations were the only group to displace a larger number of workers over the year, with job counts in this category falling by 2,112 from 2019, but this represents just 10.2 percent of jobs in the region’s largest occupation group.

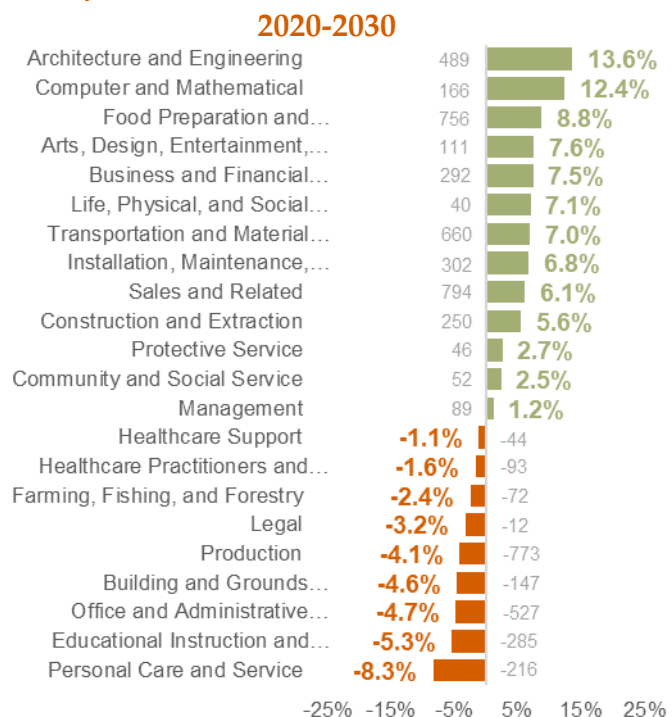
Personal Care and Service occupations had the second highest rate of job loss, falling by 13.1 percent (-391 jobs). Childcare Workers were the most impacted occupation in this category, with 109 fewer workers (-11.4%), followed by Hairdressers, Hairstylists, and Cosmetologists (-61 jobs; -12.4%), and Exercise Trainers/Fitness Instructors (-52 jobs; -29.7%).

Occupational Outlook

Architecture and Engineering occupations are expected to see the largest growth of any occupation group in the MCC service area, gaining 489 jobs by 2030 (13.6%). Of the occupations in this category that require an associate degree, Electrical Electronic Engineering Technologists/Technicians is projected to gain the most jobs (29; 22.7%), followed by Industrial Engineering Technologists/Technicians (22; 12.2%), and Calibration and Engineering Technologists/Technicians (10; 16.4%).

Conversely, Production occupations are forecasted to lose the largest volume of jobs by 2030, equating to 773 fewer employees in the region. Tool and Die Makers are the only middle-skill occupation in this group expected to see losses (-45 jobs; -10.4%), while CNC Tool Programmers lead those with growth (12 jobs; 13.8%).

Projected Growth, MCC Service Area

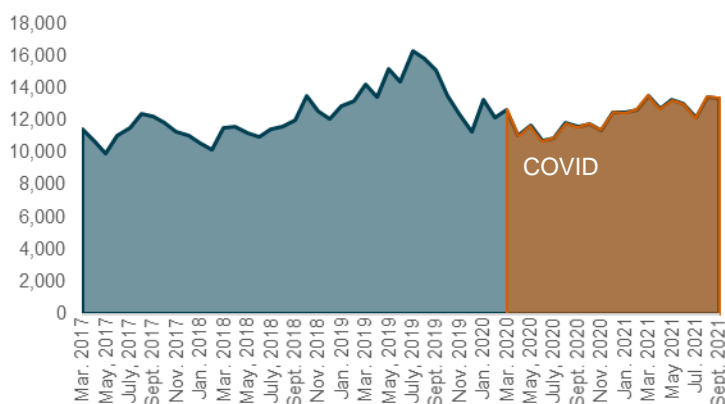


Real-Time Demand

Despite the limitations associated with online job advertisement aggregating tools, leveraging online postings serves as an the only means for real-time assessment of the changing demands of employers as they emerge. (Traditional sources of labor market data, like the Bureau of Labor Statistics, lag one year behind.) Although online hiring is leveraged disproportionately across industries, with sectors like *Agriculture* and *Construction* typically relying more on word-of-mouth hiring than other industries, job posting trends can still help identify which occupations, skills, and credentials are in demand today and how these have evolved over time.

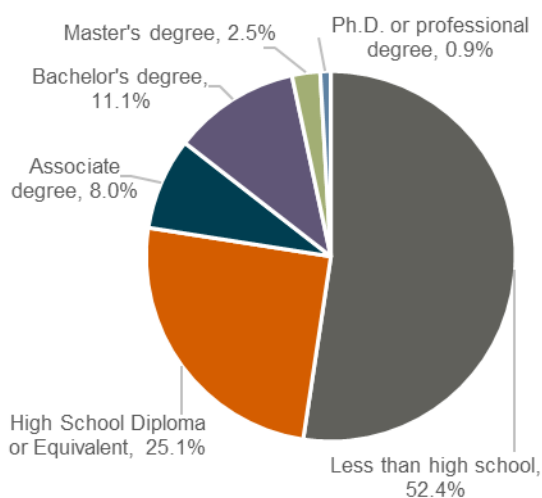
As recently as September 2021, demand in the MCC service area had shown evidence of recovery from the pandemic, with 13,391 unique jobs posted online over the month. Although this was the third largest month for postings in 2021, following March (13,545 ads) and August (13,467 ads), it's more than any month of 2020 and more closely resembles the level of demand observed in 2019. Demand grew 15.5 percent (1,795 ads) from the same month in 2020, but there were 1,718 fewer ads compared to September 2019 — a decline of 11.4 percent.

**Online Job Postings, MCC Service Area
2016-2021**



The number of job postings in the service area has progressively increased since the end of 2016, despite the pandemic's disruption in 2020. Demand remained relatively normal until April 2020, when postings dropped by 14.8 percent over the month and continued to decline until reaching a trough of 10,709 ads in June. However, demand recovered to reach pre-pandemic levels as early as August 2020 and has continued to gain momentum ever since — although it has yet to reach the peak recorded in the summer of 2019.

**Job Advertisements by Education
MCC Service Area, 2020-2021**



Although a total of 97,738 unique job ads have been posted across the region since the onset of the pandemic, employment opportunities have not emerged for all residents at an equal rate. More than half of all job postings from March 2020 to September 2021 did not require a high school diploma (52.4%), while 22.5 percent required some form of education beyond high school — with 8.0 percent (7,819 ads) requiring an associate degree. Compared to the same length of time before the pandemic (18 months), the share of middle-skill postings rose 0.4 percent and the median advertised hourly wage among these roles fell from \$20.74 to \$20.00. Additionally, the proportion of these ads remaining active for 90 days or longer dropped by 2 percentage points to hit 14.3 percent (1,118 ads).

Hiring Demands by Industry

Of the 7,819 middle-skill job openings posted online since March 2020, over one-third (37.9%; 2,179 ads) have been associated with roles in *Health Care and Social Assistance*, an increase of 4.6 percent from the same timespan pre-pandemic. The median advertised hourly wage among middle-skill openings in this sector was \$22.46, slightly higher than the overall median of \$20.00. The burgeoning demand for Health Care roles observed in the service area over the past 18 months has been largely concentrated among four roles: Registered Nurses (1,862 ads), Nursing Assistants (291 ads), Licensed Practical and Licensed Vocational Nurses (277 ads), and Medical Assistants (238 ads). *Manufacturing*, the sector with the second largest share of job postings, saw 730 middle-skill openings posted online since the onset of the pandemic (12.7% of the total) — reflecting a drop of 5.9 percent from the 779 recorded 18 months before the pandemic — with a median advertised hourly wage of \$18.77.

Middle-Skill Ads by Industry, MCC Service Area (March 2020 to September 2021)

Industry	Unique Postings		Median Posting Duration
	#	%	
Health Care and Social Assistance	2,179	37.9%	32 days
Manufacturing	730	12.7%	36 days
Administrative, Support and Waste Management and Remediation Services	676	11.8%	31 days
Retail Trade	474	8.2%	34 days
Professional, Scientific, and Technical Services	363	6.3%	23 days
Accommodation and Food Services	219	3.8%	43 days
Transportation and Warehousing	167	2.9%	16 days
Other Services	167	2.9%	34 days
Wholesale Trade	145	2.5%	32 days
Educational Services	104	1.8%	35 days
Public Administration	103	1.8%	22 days
Construction	101	1.8%	16 days
Information	93	1.6%	16 days
Finance and Insurance	79	1.4%	20 days
Utilities	68	1.2%	17 days

The next highest-demand industry in the MCC service area, and the only other sector to account for over one-tenth of all middle-skill jobs posted online since March 2020, was *Administrative, Support and Waste Management and Remediation Services*. This sector comprised 11.8 percent of all middle-skill job ads in the service area, with a median advertised hourly wage of \$25.78. The most in-demand roles in this industry include Computer User Support Specialists (109 ads), Bookkeeping, Accounting and Auditing Clerks (59 ads), and Training and Development Specialists (34 ads).

Top Posted Credentials	Top Posted Hard Skills	Top Posted Common Skills
Commercial Driver's License (CDL)	Nursing	Merchandising
Certified Nursing Assistant	Basic Life Support	Restaurant Operation
Licensed Practical Nurse	Cardiopulmonary Resuscitation (CPR)	Cash Register
Automotive Service Excellence (ASE) Certification	Nursing Care	Nursing
Doubles Endorsement	Advanced Cardiovascular Life Support	Warehousing
Hazmat Endorsement	Intensive Care Unit	Caregiving
ServSafe Certification	Medical Records	Selling Techniques
Certified Pharmacy Technician	Auditing	Auditing
Security Clearance	Long-Term Care	Cash Handling
Licensed Vocational Nurses	Medical Assistance	Customer Experience

Occupational Groups Hiring

Irrespective of industry, the top 10 middle-skill occupations in the MCC service area with the highest demand since the pandemic fell into just a few broad categories: health care, information technology, manufacturing, and professional services (i.e., business). Combined, Healthcare Practitioners and Technical occupations and Healthcare Support occupations represented 43.9 percent of all middle-skill job postings, with 2,834 ads and 768 ads, respectively. Yet, the median advertised salaries differed drastically between these two broad categories, with technical roles offering a median salary of \$79,232 and support roles offering just \$30,080. The second most in-demand broad occupation group was Office and Administrative Support, with 816 ads and a median advertised salary of \$36,480. Installation, Maintenance, and Repair occupations had the fourth largest volume of ads (474), with a median advertised salary of \$46,720.

Middle-Skill Ads by Occupation Group, MCC Service Area (March 2020 to September 2021)

Industry	Unique Postings		Median Posting Duration	Annual Median Advertised Salary	Number of Employers Posting
	#	%			
Healthcare Practitioners and Technical	2,834	34.5%	30 days	\$79,232	299
Office and Administrative Support	816	9.9%	21 days	\$36,480	340
Healthcare Support	768	9.4%	34 days	\$30,080	135
Installation, Maintenance, and Repair	474	5.8%	31 days	\$46,720	173
Management	405	4.9%	34 days	\$55,168	190
Production	399	4.9%	31 days	\$38,016	165
Sales and Related	385	4.7%	31 days	\$38,528	122
Architecture and Engineering	343	4.2%	35 days	\$50,048	125
Educational Instruction and Library	304	3.7%	31 days	\$29,056	55
Business and Financial Operations	245	3.0%	17 days	\$42,112	125
Computer and Mathematical	230	2.8%	27 days	\$40,576	114
Food Preparation and Serving Related	190	2.3%	39 days	\$27,008	59
Transportation and Material Moving	182	2.2%	20 days	\$36,480	79

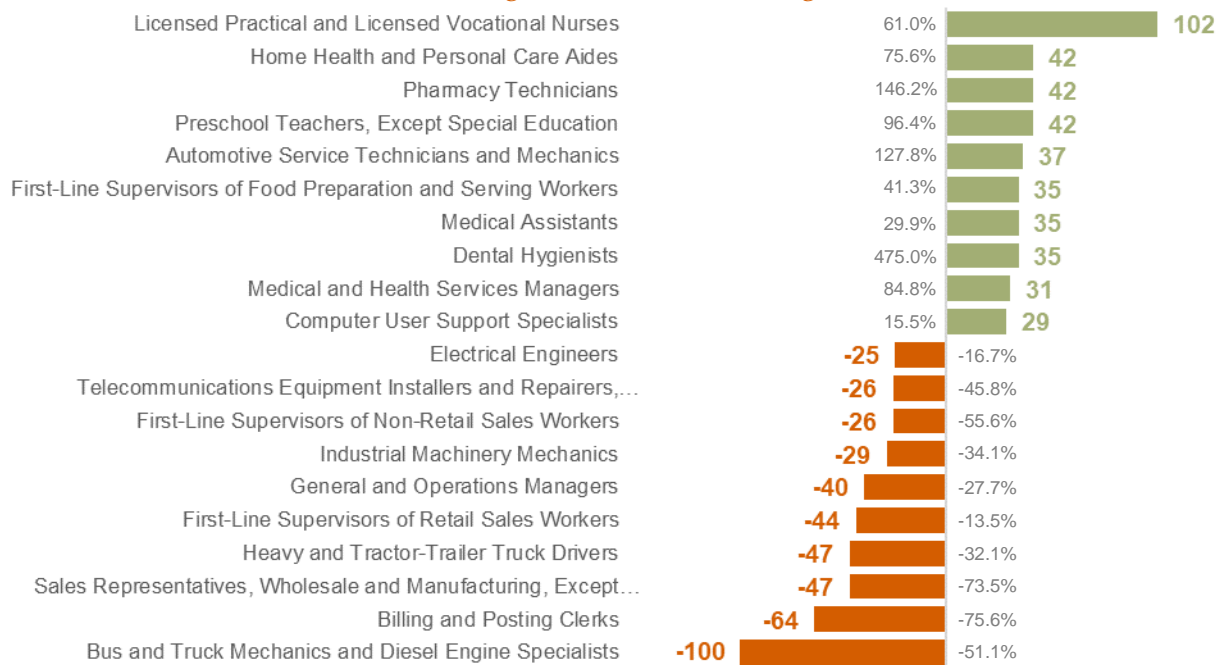
Top Posted Middle-Skill Jobs since COVID (with median wage)

Registered Nurses	\$32.09	1,951
Nursing Assistants	\$13.76	305
Licensed Practical and Licensed Vocational Nurses	\$22.23	285
Medical Assistants	\$15.19	246
Customer Service Representatives	\$16.28	184
First-Line Supervisors of Retail Sales Workers	\$19.47	182
First-Line Supervisors of Production and Operating...	\$30.06	177
Maintenance and Repair Workers, General	\$18.27	142
Computer User Support Specialists	\$23.08	131
Home Health and Personal Care Aides	\$12.06	114

In terms of detailed occupations, Registered Nurses were far and away the most in-demand middle-skill role in the service area, accounting for nearly 1 in 4 job openings posted online from March 2020 through September 2021 (24.3%). This role also earned one of the highest median wages of non-managerial positions, at \$32.09 per hour. Customer Service Representatives had the most postings of any middle-skill position in the Office and Administrative Support group, with 184 ads and a median wage of \$16.28. The next most in-demand roles in this category were First-Line Supervisors (109 ads; \$25.01) and Bookkeeping, Accounting, and Auditing Clerks (96; \$18.63). Computer User Support Specialists were the top IT occupation, distantly trailed by Network and Computer Systems Administrators (29; \$33.19) and Computer Systems Analysts (15; \$36.83).

Fastest and Slowest Growing Occupations since Pandemic

Change in Online Job Postings



When comparing the total volume of middle-skill job postings that occurred 18 months before the onset of the pandemic to 18 months after March 2020, it appears that the fastest-growing roles have largely concentrated in just a few sectors: health care, business, manufacturing, and information technology. Conversely, occupations with the sharpest drop in demand tend to fall under sales, personal care/service, and management. Licensed Practical and Licensed Vocational Nurses had the largest spike in demand since COVID, growing by 102 ads to achieve an 18-month total of 285. This more than doubled the increase recorded for the next fastest-growing occupations: Home Health and Personal Care Aides, Pharmacy Technicians, and Preschool Teachers — each gained 42 ads since the pandemic to achieve totals of 114, 96, and 91 ads, respectively. The occupation with the largest drop in demand was Bus and Truck Mechanics and Diesel Engine Specialists, with just 81 job postings from March 2020 to September 2021 — a drop of 100 from the 181 ads that were posted in the 18 months before the pandemic.

High-Growth Credentials	High-Growth Technical Skills	High-Growth Common Skills
Certified In Production And Inventory Management	Meal Service	Infrastructure
Six Sigma Green Belt Certification	Employee Assistance Programs	Adaptability
NIH Stroke Scale (NIHSS)	.NET Framework	Information Technology
SHRM-CP (Society for Human Resource Management Certified...)	Business Requirements	Advocacy
Barber License	Branding	Empathy
Series 63 Uniform Securities Agent State Law License	Agile Methodology	Sourcing
Associate Degree In Nursing	Electronic Medical Record	Goal Oriented
SHRM-SCP (Society for Human Resource Management Senior...)	Performance Improvement	Critical Thinking
Certified Safety Professional	Performance Metric	Multilingualism
Registered Health Information...	Data Management	Investigation

Supply-Demand Analysis

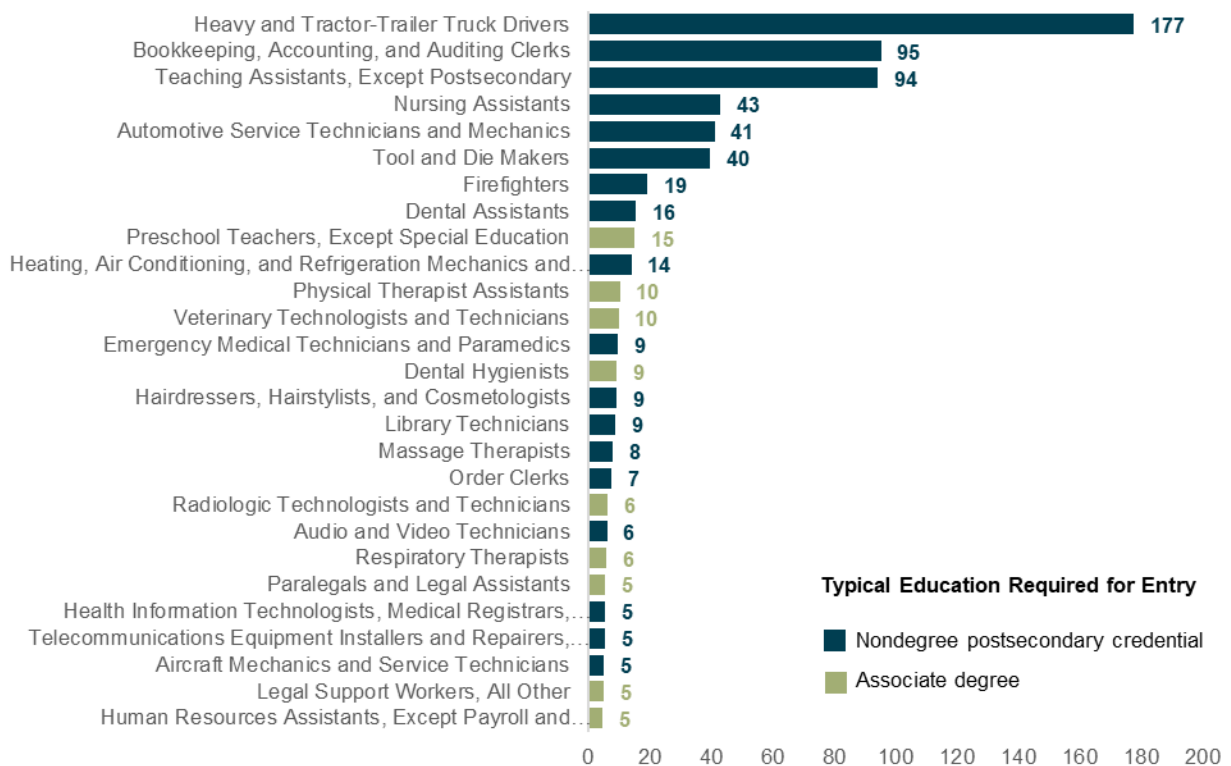
We can quantify the gap between talent supply and demand in the Muskegon Community College service area by comparing the number of annual openings expected to occur each year between 2020 to 2030, against the number of credentials earned for a given occupation during the most recent year (2020).

Given current data constraints, it's impossible to determine how many residents within the 32-ZIP code service area currently possess a given credential, meaning our supply-demand analysis can only quantify the gap between incoming supply (e.g., program graduates) and anticipated demand.

For example, the service area is expected to see an average of 177 openings for Heavy and Tractor-Trailer Truck Drivers each year through 2030 — the most openings of any occupation — but there were no CDLs awarded anywhere in the region in 2020. This means that Heavy and Tractor Trailer Truck Drivers are the middle-skill role with the largest unmet demand in the service area, with 177 openings that will remain unfilled given current trends in the education pipeline. Nursing Assistants, the fourth most undersupplied middle-skill role in the region, saw 82 completers across 4 relevant programs in 2020: Licensed Practical/Vocational Nurse Training (CIP 51.3901), Health Services/Allied Health/Health Sciences (51.0000), Health Unit Coordinator/Ward Clerk (51.0703), and Health Aide (51.2601). Yet, the region is expected to see an average of 125 openings each year for Nursing Assistants, which means roughly 43 openings are expected to remain unfilled each year through 2030.

A majority of the most undersupplied occupations in the service area do not require an associate degree, but Preschool Teachers (except special education) ranks first among those that do. Six programs in the MCC service area prepare graduates for a career in this field, but just one saw completers in 2020. Fourteen residents graduated from Early Childhood Education and Teaching (13.1210), filling just 48.3 percent of job openings in 2020 — leaving an average of 15 positions unfilled.

Top Undersupplied Middle-Skill Occupations in the MCC Service Area Average Openings Remaining Unfilled per Year (2020-2030)



Prospective Programs

Using a [CIP to SOC crosswalk](#) allows organizations to match postsecondary programs of study that provide graduates with specific skills and knowledge to the set of "target occupations" that require those competencies to be successful. After identifying which occupations correspond to which programs, we can quantify and compare demand across programs by assessing the volume of job openings expected to occur in the Muskegon Community College service area each year through 2030.

Below are the top 15 prospective associate or certificate programs designed to produce a pipeline of graduates for the region's most high-growth, high-wage, middle-skill occupations. These programs are not currently offered in the service area, with several not currently offered anywhere in West Michigan, and are ranked according to the volume of annual openings projected through 2030 for a given program's target occupations. Additional programs can be found on tab 2D of the accompanying [data package](#).

The top two programs with the highest unmet demand are both associated with construction, including Construction Trades, General (46.0000) and Construction Trades, Other (46.9999). These programs are expected to see an average of 1,179 job openings each year over the next 10 years, across the 14 distinct occupations that require the knowledge and skills graduates acquire through these programs. Construction Managers (12.0%; 45 annual openings), Electricians (10.0%; 142 annual openings), and General and Operations Managers (9.3%; 246 annual openings) are the target occupations with the highest forecasted growth rates supplied by these programs.

Although they don't have as many projected openings as construction programs, which have CIP codes beginning with 46, business programs (beginning with 52) are the most prevalent among the list — comprising six of the top 15 prospective programs in the region. The business-oriented program with the smallest projected growth rate is Business, Management, Marketing, and Related Support Services, Other (52.9999) — which is expected to gain 487 jobs across 19 target occupations by 2030, a growth rate of 3.2 percent — although this program is expected to see the most average annual openings, resulting primarily from labor force separations and occupational transfers rather than growth alone.

High-Growth, High-Wage Associate/Certificate Programs, MCC Service Area

CIP Code	Program Description	Jobs		Projected Growth		Annual Openings	Median Hourly Wage
		2020	2030	#	%		
46.0000	Construction Trades, General	17,813	18,991	1,179	6.6%	1,691	\$25.49
46.9999	Construction Trades, Other	17,813	18,991	1,179	6.6%	1,691	\$25.49
52.9999	Business, Management, Marketing, and Related Support Services, Other	15,290	15,777	487	3.2%	1,417	\$26.74
46.0415	Building Construction Technology/Technician	11,153	11,794	640	5.7%	1,085	\$20.83
52.1902	Fashion Merchandising	9,601	10,261	659	6.9%	1,041	\$20.64
52.1801	Sales, Distribution, and Marketing Operations, General	8,480	9,105	625	7.4%	869	\$25.14
52.1804	Selling Skills and Sales Operations	5,478	5,925	447	8.2%	626	\$17.87
52.1899	General Merchandising, Sales, and Related Marketing Operations, Other	5,460	5,790	330	6.0%	554	\$24.86
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician	5,728	5,939	211	3.7%	540	\$23.94
52.1909	Special Products Marketing Operations	4,882	5,244	362	7.4%	508	\$23.60
03.0201	Environmental/Natural Resources Management and Policy, General	4,232	4,563	330	7.8%	429	\$28.27
47.0105	Industrial Electronics Technology/Technician	4,345	4,765	420	9.7%	419	\$22.04
30.3301	Sustainability Studies	4,167	4,558	391	9.4%	412	\$28.89
46.0201	Carpentry/Carpenter	3,853	3,978	125	3.2%	387	\$19.48
49.0202	Construction/Heavy Equipment/Earthmoving Equipment Operation	3,594	3,746	152	4.2%	374	\$20.79

sector factor focus

Alignment of Programs to Current and Forcasted Demand in Key Sectors



IT



Manufacturing



Health Care



Business/Professional
Services

Health Care

Target Jobs (2020)	Employment Trend		Median Earnings	Avg. Annual Openings (2020-2030)	Percent Of Demand Met (2020)
	Pre-COVID (2010-2020)	Post-COVID (2020-2030)			
18,868	▼ (-0.3%)	▼ (-1.0%)	\$35,100 Annual, 2020	2,039	27.0% 551 completions

Muskegon Community College currently offers nine programs categorized in the Health Care sector (see appendix 2 for list of specific programs), supplying talent across 23 target occupations that typically require the associate degrees or certificates these programs award. These occupations employed over 18,800 workers in the college's service area as recently as 2020. They are expected to decline by 1.0 percent through 2030 — reflecting a 10-year loss of 198 jobs.

Despite these losses, the region is still expected to see an average of 2,039 job openings each year across these occupations, due to retirements and occupational transfers. In 2020, just 551 credentials were awarded in the service area across four postsecondary institutions, meaning the graduate pipeline only met 27.0 percent of demand. Assuming this trend continues, and there are no additional residents in the region with these credentials aside from those who graduate each year, almost 14,884 health care openings will remain unfilled by 2030.

Top Health Care Target Occupations, MCC Service Area

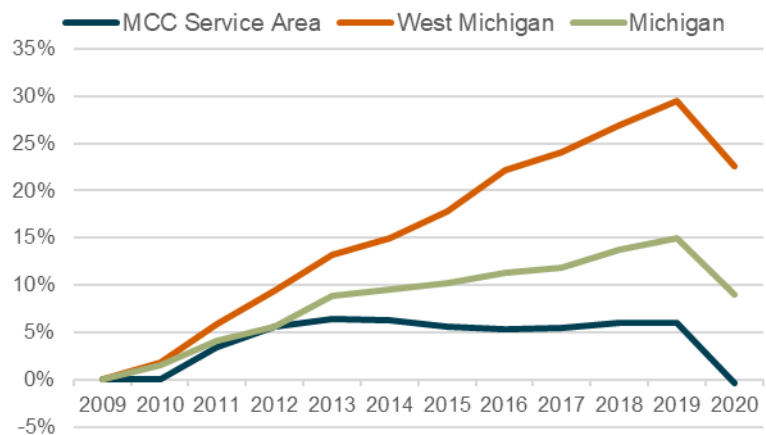
Occupation	2020 Jobs	Annual Openings	Median Hourly Earnings	Projected Growth (2020 - 2030)
Office Clerks, General	4,435	497	\$16.98	-4.1%
Home Health and Personal Care Aides	2,913	472	\$12.03	10.6%
Nursing Assistants	2,020	234	\$13.75	-6.9%
Registered Nurses	2,928	148	\$32.08	-6.1%
First-Line Supervisors of Office and Administrative Support Workers	1,252	122	\$24.96	-2.7%
Receptionists and Information Clerks	842	102	\$14.08	-6.2%
Medical Assistants	713	85	\$15.19	-2.1%
Medical Secretaries and Administrative Assistants	731	76	\$15.47	-5.3%
Social and Human Service Assistants	433	55	\$13.53	6.1%
Exercise Trainers and Group Fitness Instructors	227	47	\$16.88	30.0%
Licensed Practical and Licensed Vocational Nurses	550	40	\$22.21	-3.9%
Medical and Health Services Managers	376	35	\$41.04	13.1%
Administrative Services and Facilities Managers	293	27	\$40.16	5.7%
Clinical Laboratory Technologists and Technicians	353	23	\$19.36	-3.0%
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other	279	19	\$18.09	-5.3%
Phlebotomists	98	16	\$15.98	31.7%
Nurse Practitioners	138	11	\$51.30	20.9%
Data Entry Keyers	96	9	\$15.83	-24.0%
File Clerks	54	6	\$17.90	-15.2%
Orderlies	51	6	\$12.91	-11.7%
Nurse Anesthetists	49	2	\$84.23	-8.5%
Medical Transcriptionists	22	3	\$13.83	7.1%
Psychiatric Aides	15	2	\$17.66	-6.8%

Employment and Demographics: Health Care

From 2009 to 2019, employment across the 23 target occupations supplied by MCC's health care programs grew steadily to reach an apex of 20,071, reflecting a 10-year growth rate of 6.0 percent for the service area. The pandemic eliminated this progress and reset employment to levels not seen since 2008. Burnout, amassing retirements, and the high risk of exposure associated with health care positions drove many potential candidates to other industries, causing this sector to shed 1,204 jobs in 2020. West Michigan (-5.3%) and the state (-5.2%) also lost a significant share of workers over the year, although they fared slightly better than the service area (-6.0%).

Over one-fourth of the workforce potentially supplied by MCC's nine health care programs are set to reach or exceed retirement age by 2030 (4,976 workers). Amassing retirements among Baby Boomers will continue to drive heightened demand for in-home health care roles and skills over the coming years.

Employment Growth, Indexed to 2009



Gender Distribution

2020

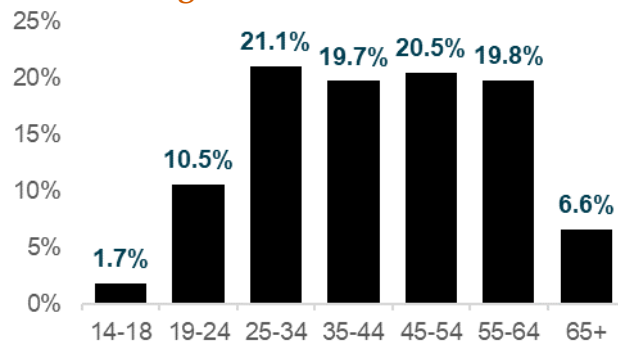


13.3% Male
2,518 workers



86.7% Female
16,349 workers

Age Distribution, 2020



In-Demand Credentials	In-Demand Hard Skills	In-Demand Common Skills
Certified Nursing Assistant	Nursing	Communications
Licensed Vocational Nurses	Caregiving	Customer Service
Associate Degree In Nursing	Basic Life Support	Valid Driver's License
Certified Medical Assistant	Home Health Care	Management
American Medical Technologists	Cardiopulmonary Resuscitation (CPR)	Leadership
Patient Care Technician	Personal Care	Operations
Nurse Practitioner	Meal Planning And Preparation	Planning
CNOR Certification	Home Care	Computer Literacy
Critical Care Registered Nurse (CCRN)	Companionship	Scheduling
Trauma Nurse Core Course (TNCC)	Nursing Care	Compassion

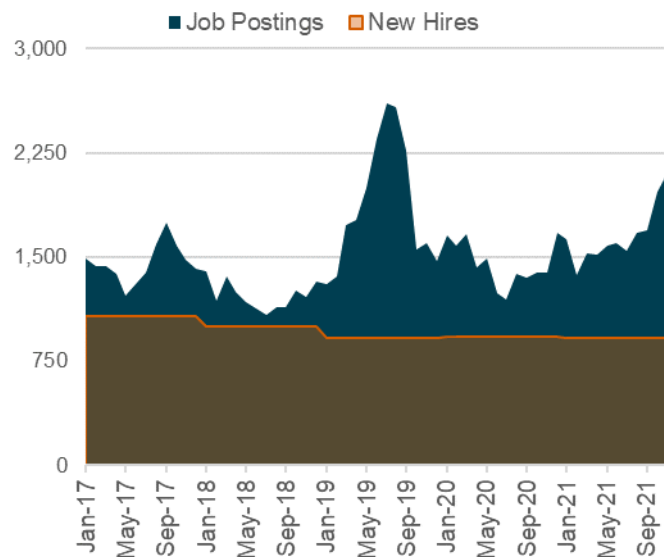
Real-Time Demand: Health Care

Employer demand in the service area for the 23 target occupations associated with MCC’s health care programs hit a low of 17,422 job postings in 2020, which reflects a monthly average of just 1,452 job ads (even lower than the average of 1,455 observed back in 2017). The number rebounded to achieve an average of 1,655 postings per month for the first three quarters of 2021. This equates to an over-the-year growth rate of 14.0 percent, reflecting 203 additional postings each month in 2021 compared to the previous year, and a growth rate of 13.7 percent from the monthly average in 2017 (200 additional postings per month).

Despite burgeoning demand, the rate of hiring for these target occupations has continued to shrink since 2017, likely due to supply-side constraints. On average, 1,075 new employees were hired each month in 2017 for the 23 roles supplied by MCC’s health care programs. That monthly average dropped to 913 new hires for the first third of 2021. Considering an average of 1,655 job openings were posted and 913 people were hired each month in 2021, just 55.2 percent of demand for these target health care roles was met. This means up to 6,678 job openings have gone unfilled over the first three quarters of 2021 in the 32-ZIP code service area alone.

Hires per Job Posting, MCC Service Area

Jan. 2017 – Sept. 2021



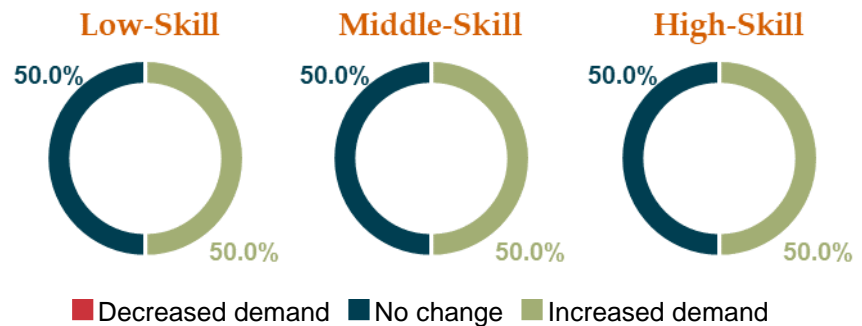
Registered Nurses have been the most in-demand health care role in the service area since 2017. This continued in 2021, with an average of 426 job postings per month. Despite surging demand since the pandemic, the supply of talent for this role has not been able to meet employer needs. For the first three quarters of 2021, just 12.4 percent of job postings for Registered Nurses were filled each month. Since the pandemic, the fastest growing credentials listed on job postings include the NIH Stroke Scale certification, Associate degrees in Nursing, and certifications from the National Healthcareer Association (NHA).

High-Growth Credentials	High-Growth Hard Skills	High-Growth Common Skills
NIH Stroke Scale (NIHSS)	Vaccination	Ethical Conduct
Associate Degree In Nursing	Employee Assistance Programs	Written English
NHA Certified	Operational Efficiency	Smartphone Operation
Registered Health Information Administrator	Medical Orders For Life-Sustaining Treatments	Lifelong Learning
Certified Case Manager	Applicant Tracking Systems	Optimism
Registered Health Information...	Clinical Documentation	Dishwashers
Certified Dialysis Nurse	Employee Retention	Information Technology
Certified Nephrology Nurse	Customer Engagement	Timelines
Trauma Nurse Core Course (TNCC)	Emergency Medicine	Stress Management
Emergency Nurse Pediatric Course (ENPC)	Meal Service	Quick Learning

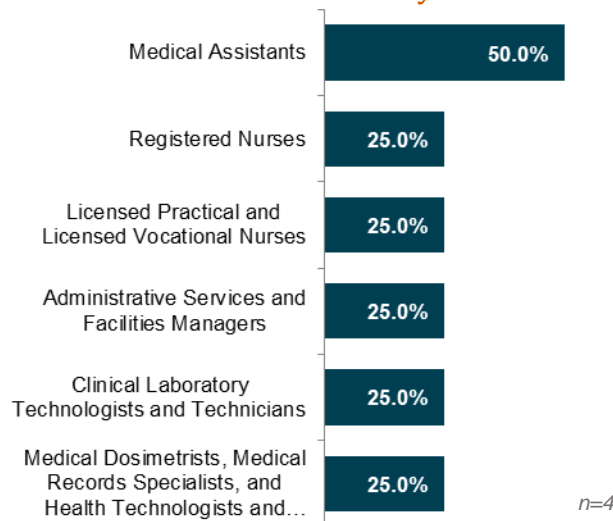
Employer Feedback: Health Care

When asked if demand has changed since the pandemic, no health care employers reported decreases at any level of skill. Although there were no marked differences in demand across various skill levels, employers were evenly split between seeing increased demand and demand remaining unchanged since March 2020.

Change in Demand Since Pandemic by Skill Level



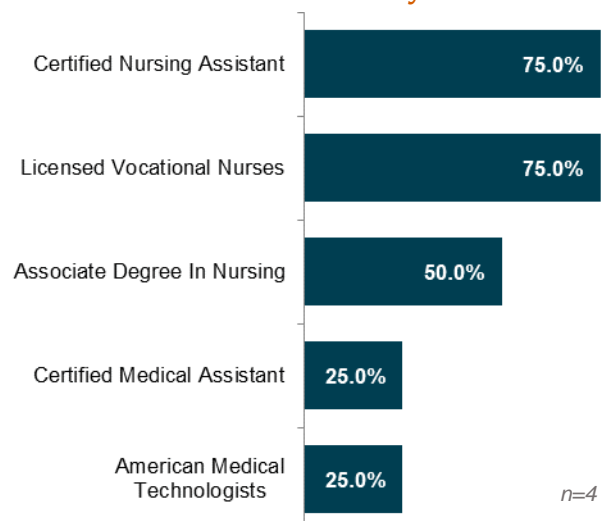
Which Occupations Are Expected to See Increased Demand by 2026?




When asked to rank the level of difficulty finding qualified candidates since the pandemic for the top target occupations in this sector, from (1) "no difficulty" to (5) "extreme difficulty," employers reported that Administrative Services and Facilities Managers were the most hard-to-fill occupation with a weighted average of 5, yet just 25 percent of employers expect this role to see increased demand over the next 5 years. The second most hard-to-fill occupations since the pandemic were Registered Nurses and Licensed Practical and Vocational Nurses, both with a weighted average difficulty of 4.67. A quarter of respondents expect these roles to see increased demand by 2026.

Nursing Assistant certifications and Vocational Nurse licensures are expected to be the most in-demand health care credentials over the next five years, followed by Associate Degrees in Nursing. Employers also reported that Associate Degrees in Accounting and Contracts and Grants Management would also be in-demand over the coming years, as well as certificates associated with Surgical Technology. When asked which credentials are currently in-demand and undersupplied (see appendix 3), Medical Assistant certifications topped the list with 75 percent of responses, followed by Associate Degrees in Nursing (50%), Vocational Nurse licenses (25%), Patient Care Technician certifications (25%) and Nurse Practitioner certifications (25%).

Which Credentials are Expected to See Increased Demand by 2026?



Information Technology

Target Jobs (2020)	Employment Trend		Median Earnings	Avg. Annual Openings (2020-2030)	Percent Of Demand Met (2020)
	Pre-COVID (2010-2020)	Post-COVID (2020-2030)			
9,150	 (13.2%)	 (3.4%)	\$45,600 Annual, 2020	919	1.7% 16 completions

Muskegon Community College currently offers 12 programs categorized in the Information Technology sector (see appendix 2 for list of specific programs), supplying talent across 17 target occupations that typically require the associate degrees or certificates these programs award. These occupations employed over 9,100 workers in the college’s service area as recently as 2020. They are expected to grow by 3.4 percent through 2030 — reflecting a 10-year gain of 311 jobs.

Despite these modest gains resulting from anticipated growth, the region is still expected to see an average of 919 job openings each year across these occupations due to retirements and occupational transfers. In 2020, just 16 credentials were awarded in the service area at MCC — the only institution that supplied candidates for these target occupations — meaning the graduate pipeline only met 1.7 percent of regional demand that year. Assuming this trend continues, and there are no additional residents in the region with these credentials aside from those who graduate each year, almost 9,030 IT openings will remain unfilled by 2030.

Top IT Target Occupations, MCC Service Area

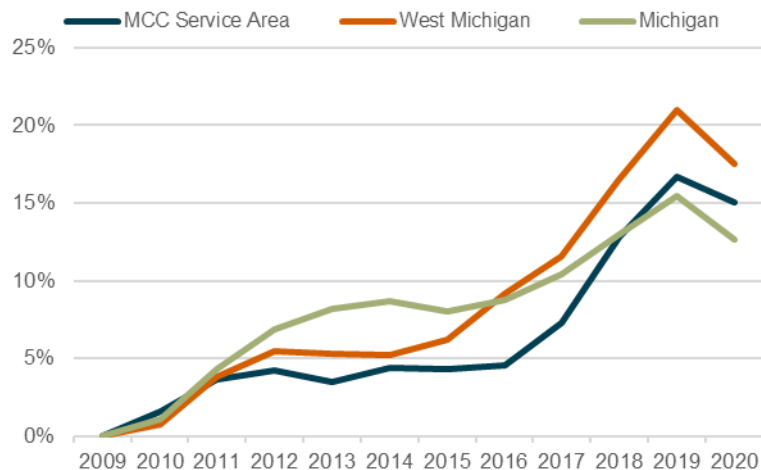
Occupation	2020 Jobs	Annual Openings	Median Hourly Earnings	Projected Growth (2020 - 2030)
Office Clerks, General	4,435	497	\$16.98	-4.1%
Project Management Specialists and Business Operations Specialists, All Other	1,388	116	\$31.40	8.2%
Software Developers and Software Quality Assurance Analysts and Testers	873	95	\$38.11	27.1%
Graphic Designers	380	40	\$21.80	9.0%
Computer User Support Specialists	466	37	\$23.02	3.9%
Computer and Information Systems Managers	308	26	\$51.91	9.1%
Computer Systems Analysts	270	21	\$36.65	4.5%
Computer Occupations, All Other	190	16	\$31.30	6.3%
Network and Computer Systems Administrators	218	15	\$33.06	1.6%
Web Developers and Digital Interface Designers	117	11	\$25.87	12.8%
Computer, Automated Teller, and Office Machine Repairers	80	10	\$16.96	5.0%
Computer Programmers	128	8	\$31.01	-8.5%
Database Administrators and Architects	87	7	\$34.20	8.3%
Computer Network Support Specialists	77	7	\$25.61	10.1%
Information Security Analysts	43	5	\$41.04	30.2%
Computer Network Architects	62	4	\$44.46	-2.4%
Special Effects Artists and Animators	30	3	\$11.35	-1.3%

Employment and Demographics: Information Technology

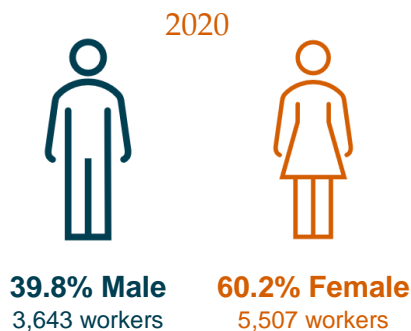
Employment across the 17 target occupations supplied by MCC's IT programs has grown rapidly since 2009 to reach an apex of 9,282 in 2019 — a 10-year growth rate of 16.7 percent. This sector was largely resilient to pandemic-related job loss, primarily because a majority of the tasks associated with these occupations are able to be performed remotely. The industry did shed 132 jobs over the year, reflecting a decline of 1.4 percent, but employer demand quickly rebounded to exceed pre-pandemic levels as recently as February 2021.

Just under 23.7 percent of the workforce potentially supplied by MCC's 12 IT programs are set to reach or exceed retirement age by 2030, meaning the region will need to replace up to 2,166 retirees by 2030. The pandemic, and subsequent shift to remote work, has driven heightened demand for credentials and skills related to data security that will continue over the next decade.

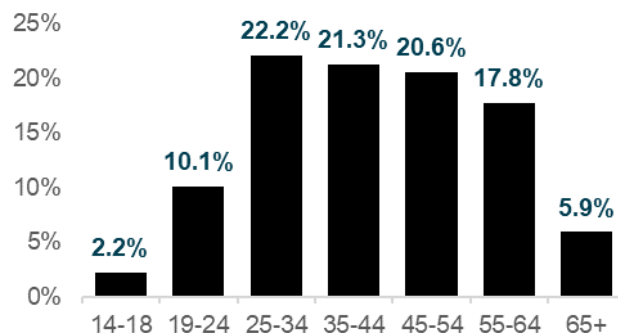
Employment Growth, Indexed to 2009



Gender Distribution



Age Distribution, 2020



In-Demand Credentials	In-Demand Hard Skills	In-Demand Common Skills
Security Clearance	Computer Science	Communications
Cisco Certified Network Associate	Software Engineering	Management
Microsoft Certified Systems ...	Software Development	Problem Solving
CompTIA Network+	Agile Methodology	Troubleshooting (Problem Solving)
Project Management Professional...	Operating Systems	Customer Service
CompTIA A+	SQL (Programming Language)	Leadership
Microsoft Certified Systems Engineer	C# (Programming Language)	Operations
CompTIA Security+	Technical Support	Detail Oriented
ITIL Certifications	Automation	Microsoft Office
Microsoft Certified Professional	Information Systems	Sales

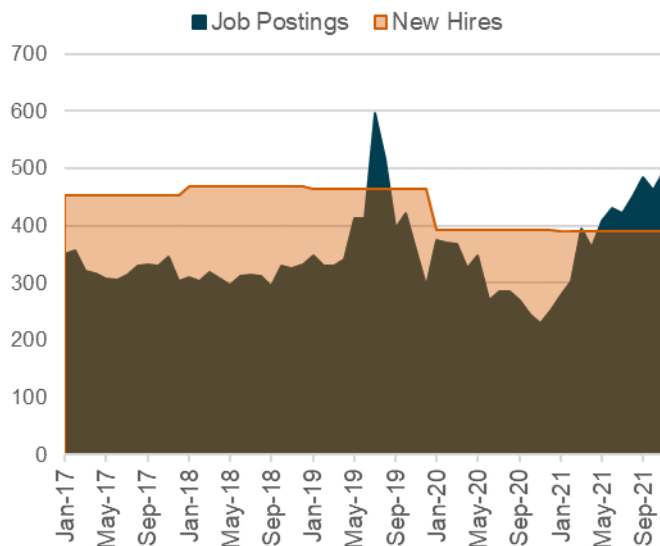
Real-Time Demand: Information Technology

Employer demand in the service area for the 17 target occupations associated with MCC’s IT programs hit a low of 3,622 job postings in 2020, reflecting a monthly average of just 302 ads (lower than the average of 326 observed back in 2017), but rebounded to achieve an average of 409 postings per month for the first three quarters of 2021. This equates to an over-the-year growth rate of 35.4 percent, reflecting 107 additional postings each month in 2021 compared to the previous year, and a growth rate of 25.4 percent from the monthly average in 2017 (83 additional postings per month in 2021).

Aside from the peak observed in the summer of 2019, 2021 marked the first year employer demand consistently exceeded the rate of hiring for these 17 occupations. On average, 390 new employees were hired per month for the first three quarters of 2021 for the roles supplied by MCC’s IT programs. This reflects a substantial drop of 14.1 percent since 2017, when the monthly average stood at 454 new hires. Considering an average of 409 job openings were posted and 390 people were hired each month in 2021, nearly 95.5 percent of demand has been met for these target IT occupations. This means that up to 171 job openings have gone unfilled over the first nine months of 2021 in the 32-ZIP code service area.

Hires per Job Posting, MCC Service Area

Jan. 2017 – Sept. 2021



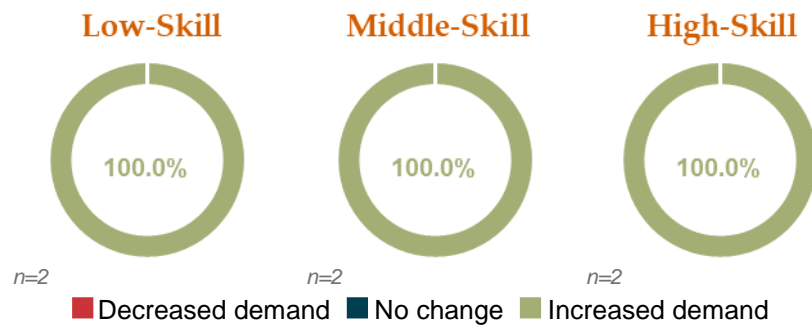
Software Developers, Computer User Support Specialists, and Computer Systems Analysts continued to serve as the most in-demand IT roles in the service area over first nine months of 2021, with monthly averages of 75, 66, and 33 job postings, respectively. Despite surging demand in 2021, Web Developers and Digital Interface Designers and Computer System Analysts were the most undersupplied IT roles in the service area, both averaging 1 new hire for every 5 job openings. The fastest growing credential was the Project Management Professional certification, followed by the Cisco Network Associate certification.

High-Growth Credentials	High-Growth Hard Skills	High-Growth Common Skills
Project Management Professional...	Bootstrap (Front-End Framework)	Assertiveness
Cisco Certified Network Associate	E-Commerce	Training And Development
VMware Certified Professional (VCP)	Entity Framework	Optimism
Salesforce Certification	Data Processing	Growth Mindedness
Certified Software Tester (CSTE)	Mobile Application Development	Basic Math
CompTIA A+	Construction	Negotiation
ITIL Certifications	Github	Team Oriented
Microsoft Certified Systems Engineer	A/B Testing	Writing
Security Clearance	Architectural Design	Korean Language
Microsoft Certified Professional	Data Structures	Numbers (Spreadsheet)

Employer Feedback: Information Technology

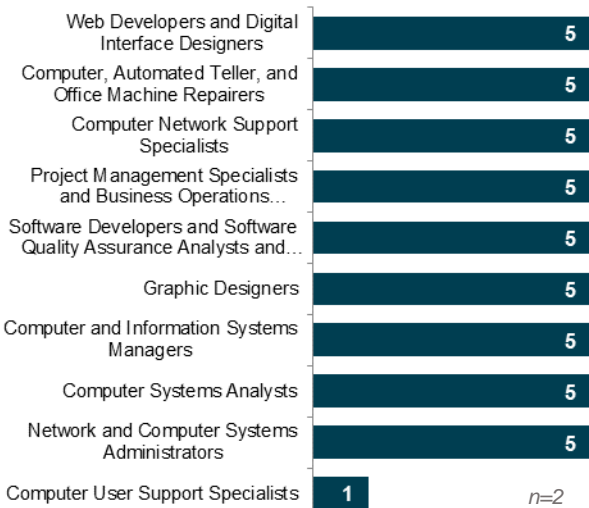
Although just two IT employers in the service area provided feedback on the survey, both reported increased demand for positions at all skill levels since the pandemic. This is consistent with estimates of job postings and new hires, which indicate that demand has grown significantly and hiring has been constrained by a lack of qualified talent.

Change in Demand Since Pandemic by Skill Level



Average Difficulty Finding Candidates

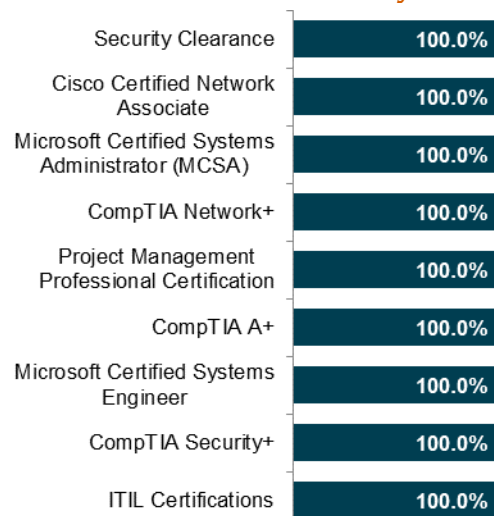
(1=No difficulty, 5=Extreme difficulty)



When asked to rank the level of difficulty finding qualified candidates since the pandemic for the top target occupations in this sector, from (1) 'no difficulty' to (5) 'extreme difficulty,' employers reported that all of the top target occupations supplied by MCC's IT programs were difficult to fill, aside from Computer User Support Specialist. When asked which of these occupations are expected to see increased demand over the next five years, employers indicated that all 10 occupations would see growth by 2026. Additional in-demand occupations not listed here include Data Scientists/Analysts, AI Engineers, Security Engineers, and Electronics Technicians.

All 10 of the most in-demand IT credentials listed on page 24 are forecasted to see increased demand by 2026, according to the employers who completed the survey, reflecting a steady shift toward ecommerce that began before the pandemic and has accelerated since. With more economic activity occurring online, a trend expected to continue over the coming years, employers are anticipating growing demand for skills and credentials in digital marketing and cybersecurity. Cloud computing and machine learning were also frequently cited as skills employers would need over the next five years, driving demand for certificates in cloud security and data privacy solutions (see appendix 3).

Which Credentials are Expected to See Increased Demand by 2026?



Manufacturing

Target Jobs (2020)	Employment Trend		Median Earnings	Avg. Annual Openings (2020-2030)	Percent Of Demand Met (2020)
	Pre-COVID (2010-2020)	Post-COVID (2020-2030)			
12,090	 (8.8%)	 (-3.5%)	\$39,800 Annual, 2020	1,226	1.1% 14 completions

Muskegon Community College currently offers seven programs that fall under the Manufacturing, or Applied Technology, umbrella (see appendix 2 for list of specific programs), supplying talent for 27 target occupations that typically require the associate degrees or certificates these programs award. These occupations employed 12,090 workers in the college's service area as recently as 2020 and are projected to decline by -3.5 percent by 2030, reflecting a 10-year loss of 423 jobs.

Despite anticipated decline, the region expects to see an average of 1,226 job openings each year across these 27 manufacturing roles, primarily due to retirements, although turnover is also a contributing factor. In 2020, just 14 credentials were awarded in the service area aligned to these target occupations, meaning the graduate pipeline supplied talent for only 1.1 percent of annual openings. Should this trend continue, and there are no additional residents in the region with these credentials aside from those who graduate each year, nearly 12,120 openings will remain unfilled in this sector by 2030.

Top Manufacturing Target Occupations, MCC Service Area

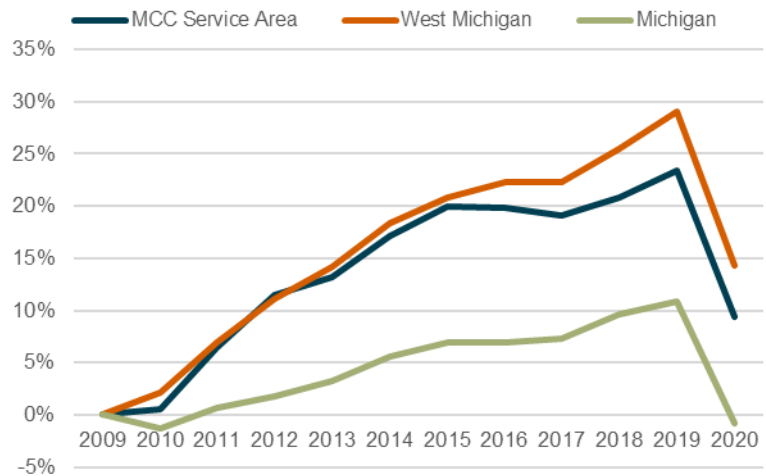
Occupation	2020 Jobs	Annual Openings	Median Hourly Earnings	Projected Growth (2020 - 2030)
Machinists	1,974	200	\$19.33	-2.9%
Maintenance and Repair Workers, General	1,871	189	\$18.23	4.6%
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	1,661	157	\$17.57	-12.4%
Welders, Cutters, Solderers, and Brazers	1,101	120	\$20.05	1.9%
First-Line Supervisors of Construction Trades and Extraction Workers	913	94	\$26.30	3.3%
Computer Numerically Controlled Tool Operators	770	78	\$19.42	-11.9%
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	570	60	\$17.14	2.2%
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	549	60	\$19.04	-6.4%
Plumbers, Pipefitters, and Steamfitters	545	53	\$21.26	-8.6%
Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	286	27	\$19.15	-13.8%
Metal Workers and Plastic Workers, All Other	260	24	\$15.90	-16.1%
Computer Numerically Controlled Tool Programmers	171	23	\$25.39	19.1%
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	230	23	\$19.70	-8.5%
Sheet Metal Workers	238	21	\$22.49	-7.8%
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	179	19	\$17.28	-1.7%
Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	155	14	\$18.42	-11.7%
Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	129	12	\$17.69	-14.1%
Structural Metal Fabricators and Fitters	113	12	\$18.32	-3.7%
Patternmakers, Metal and Plastic	87	8	\$28.17	-3.8%
Structural Iron and Steel Workers	67	8	\$22.46	14.9%
Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	59	6	\$19.74	-6.9%
Forging Machine Setters, Operators, and Tenders, Metal and Plastic	38	3	\$20.71	-11.9%
Model Makers, Metal and Plastic	30	3	\$27.57	3.3%

Employment and Demographics: Manufacturing

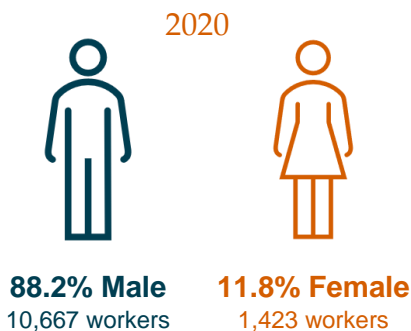
From 2009 to 2019, employment across the 27 target occupations supplied by MCC's applied technology programs grew rapidly to hit an apex of 13,639 — reflecting a 10-year growth of 23.4 percent. Despite substantial growth over the past decade, the pandemic caused employment in the service area to revert to levels recorded in 2011. Manufacturers in the region shed 1,548 jobs over the year, a loss of 11.4 percent. Machinists, Maintenance and Repair Workers, and Welders experienced the greatest attrition since the pandemic, displacing 267, 199, and 195 workers, respectively, from 2019 to 2020.

As recently as 2020, 23.9 percent of the workforce potentially supplied by MCC's manufacturing programs were set to reach or exceed retirement age by 2030, a potential loss of up to 2,890 workers, while another 22.9 percent will reach or exceed retirement age by 2040.

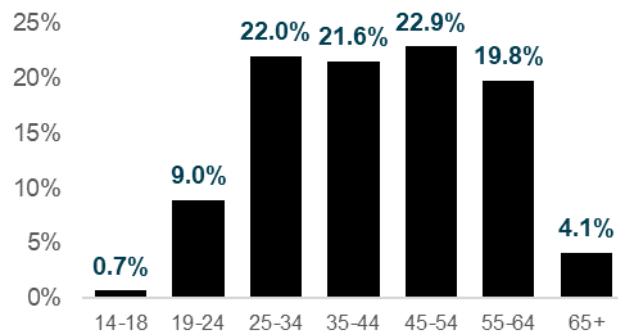
Employment Growth, Indexed to 2009



Gender Distribution



Age Distribution, 2020



In-Demand Credentials	In-Demand Hard Skills	In-Demand Common Skills
Commercial Driver's License (CDL)	HVAC	Troubleshooting (Problem Solving)
EPA 608 Technician Certification	Plumbing	Communications
Pesticide Applicator License	Machinery	Operations
Certified Forklift Operator	Machining	Basic Math
CDL Class C License	Mechanics	Management
HVAC Certification	Preventive Maintenance	Valid Driver's License
Journeyman Electrician	Tooling	Problem Solving
Security Clearance	Welding	Lifting Ability
National Apprenticeship Certificate	Carpentry	Detail Oriented
EPA Universal Certification	Lathes	Customer Service

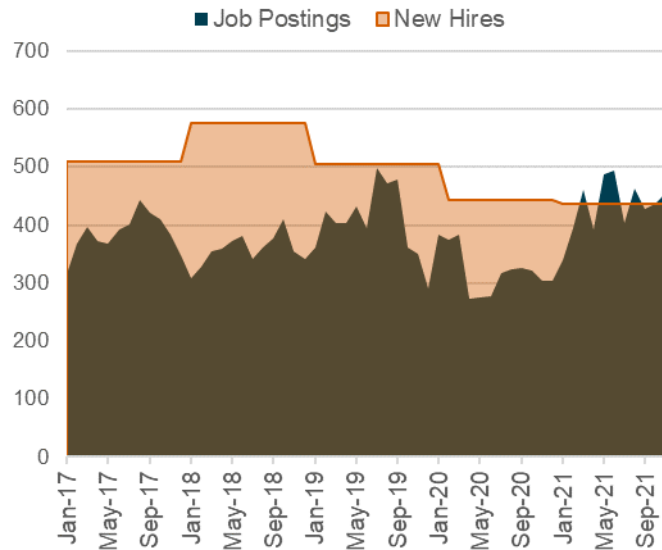
Real-Time Demand: Manufacturing

Employer demand in the service area for the 27 target occupations associated with MCC’s applied technology programs hit a low of 3,863 job postings in 2020, reflecting a monthly average of just 322 ads (lower than the average of 385 recorded in 2017), but has since rebounded to achieve an average of 433 postings per month for the first three quarters of 2021. This equates to an over-the-year growth rate of 34.4 percent, reflecting 111 additional postings each month in 2021 compared to the previous year, and a growth rate of 12.4 percent from the monthly average in 2017 (48 additional postings per month in 2021).

Although online job advertisements are typically less prevalent in this sector, as more candidates tend to be referral-based when compared to other industries, 2021 marked the first year employer demand exceeded the rate of hiring among the 27 target occupations supplied by MCC’s applied technology programs. On average, 436 new employees were hired per month in the service area for the first three quarters of 2021, reflecting a decline of 14.5 percent since 2017 (510 new hires per month).

The same occupations that saw the greatest job loss at the onset of the pandemic were the most sought-after roles of the first nine months of 2021, led by Maintenance and Repair Workers (824 ads), Machinists (229 ads), and Welders (155 ads). The true level of demand associated with these roles is likely higher than estimated through online job postings, as employers typically only post one advertisement for multiple vacancies, which would explain why many of these roles saw more hires per month than job postings. Maintenance and Repair Workers were the only target occupation in the sector with excess demand, averaging just 1 new hire for every 2 job openings since the pandemic. Although Commercial Driver’s Licenses (CDL) have remained the most in-demand credential in this sector since 2017, growth in demand for Certified Forklift Operators has more than doubled that of CDLs since March 2020.

Hires per Job Posting, MCC Service Area
Jan. 2017 – Sept. 2021

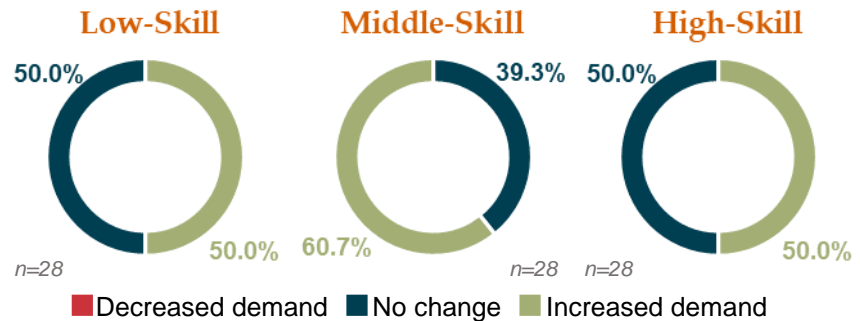


High-Growth Credentials	High-Growth Hard Skills	High-Growth Common Skills
Certified Forklift Operator	Subcontracting	Organizational Skills
Commercial Driver's License (CDL)	Pharmaceuticals	Memos
CDL Class C License	Dial Indicators	Scheduling
Pesticide Applicator License	Systems Engineering	English Language
Certified Industrial Refrigeration Operator (CIRO) Certification	Press Brake	Punctuality
Security Clearance	Property Management	Innovation
Certified Pharmacy Technician	Toolroom	Real Estate
Registered Technologist	Ballasts	First Aid
Certified First Responder	Irrigation (Landscaping And Agriculture)	Microsoft Excel
HVAC Certification	Safety Culture	Multilingualism

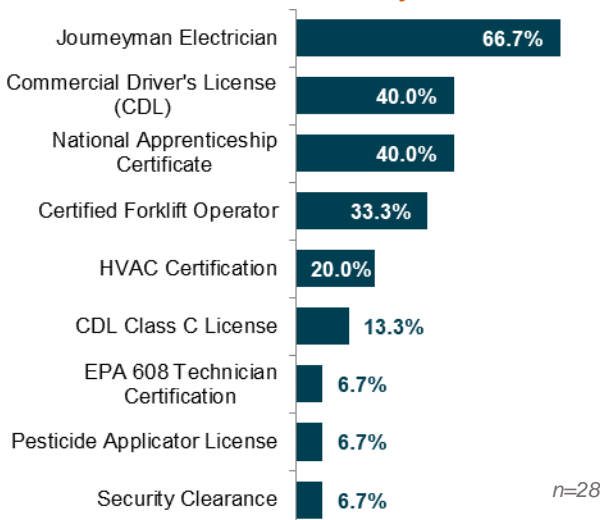
Employer Feedback: Manufacturing

When asked if demand has changed since the pandemic, no manufacturers reported decreases at any level of skill. With respect to middle- and high-skill roles, employers were evenly split between seeing increased demand and demand remaining unchanged since March 2020. However, there was a notable increase in demand associated with middle-skill roles, with 60.7 percent of respondents reporting more demand now.

Change in Demand Since Pandemic by Skill Level



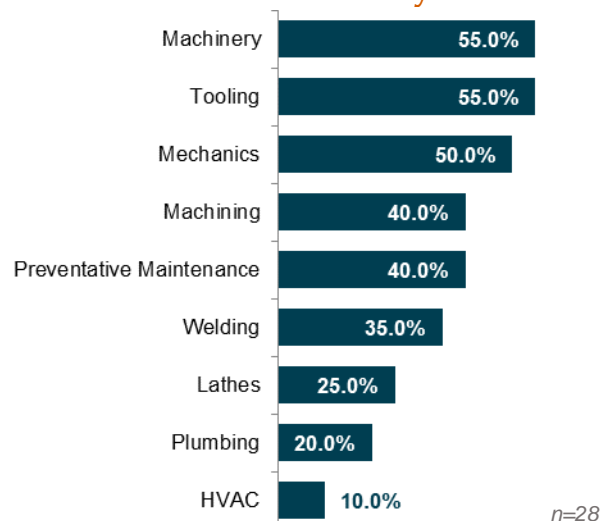
Which Credentials are Expected to See Increased Demand by 2026?



Two in three employers expect to see increased demand for Journeyman Electricians by 2026, compared to 40 percent of respondents anticipating a greater need for CDLs and National Apprenticeship Certificates over the next five years. Certified Forklift Operators and HVAC certifications also received a favorable outlook, in addition to the credentials required of Welding and Sheet Metal Fabricators, Maintenance Technicians, and Electrical Technicians (see appendix 3). Electrical Engineering Technologists and Technicians were the second hardest to fill job in the sector since the pandemic, with a weighted average difficulty of 4.2 out of 5, and were only surpassed by Automotive Service Technicians and Mechanics (4.33).

When asked which skills are *currently* in-demand and undersupplied, a majority of employers reported that machinery (59.1%), machining (59.1%), tooling (50.0%), and mechanics (45.5%) were the most difficult to find (see appendix 3). These skills also show a favorable outlook over the next five years, with employers ranking them as the most likely competencies to see increased demand by 2026, followed by preventative maintenance (40%), Welding (35%) and lathes (25%). Employers also suggested that sewing and human relation skills would experience more demand in the service area over the coming years, reflecting the difficulty hiring managers currently face sourcing candidates for sales and supervisory roles requiring higher degrees of social-emotional skills.

Which Skills are Expected to See Increased Demand by 2026?



Professional and Business Services

Target Jobs (2020)	Employment Trend		Median Earnings	Avg. Annual Openings (2020-2030)	Percent Of Demand Met (2020)
	Pre-COVID (2010-2020)	Post-COVID (2020-2030)			
30,195	 (8.6%)	 (2.3%)	\$47,800 Annual, 2020	3,128	17.2% 537 completions

Muskegon Community College currently offers eight programs categorized under Professional and Business Services (see appendix for list of specific programs), supplying talent across 43 target occupations that typically require the associate degrees or certificates these programs award. These occupations employed over 30,190 workers in the college's service area as recently as 2020, and are forecasted to grow by 2.3 percent through 2030 — a 10-year gain of 685 jobs.

In addition to openings resulting solely from growth, the region is expected to see an average of 3,128 openings each year across these occupations due to retirements and occupational transfers. In 2020, 537 relevant credentials were awarded in the service area across three postsecondary institutions, indicating the graduate pipeline satiated just 17.2 percent of regional demand that year. Assuming this trend continues, and there are no additional residents in the region with these credentials aside from those who graduate each year, almost 25,910 job openings will remain unfilled in this sector by 2030.

Top Professional/Business Services Target Occupations, MCC Service Area

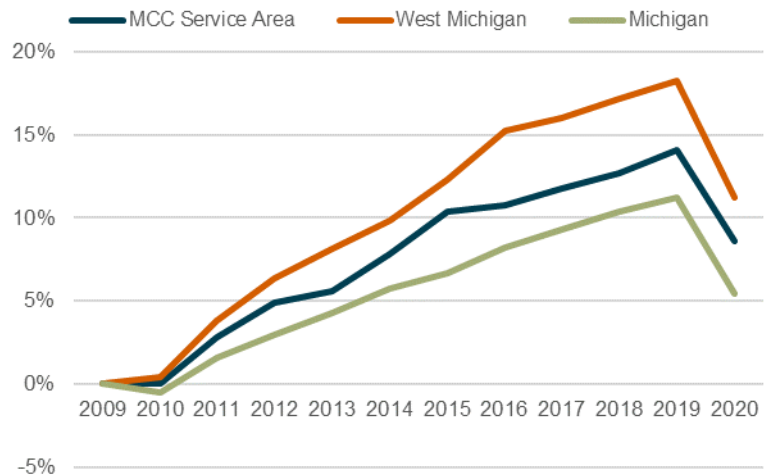
Occupation	2020 Jobs	Annual Openings	Median Hourly Earnings	Projected Growth (2020 - 2030)
Office Clerks, General	4,435	497	\$16.98	-4.1%
Customer Service Representatives	2,738	344	\$16.26	-2.6%
General and Operations Managers	2,830	275	\$43.53	10.6%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	2,311	258	\$29.56	9.7%
First-Line Supervisors of Retail Sales Workers	2,126	234	\$19.14	2.6%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	2,237	232	\$17.49	-6.5%
Bookkeeping, Accounting, and Auditing Clerks	1,657	181	\$18.62	-2.4%
First-Line Supervisors of Office and Administrative Support Workers	1,252	122	\$24.96	-2.7%
Accountants and Auditors	1,264	117	\$30.14	2.5%
Project Management Specialists and Business Operations Specialists, All Other	1,388	116	\$31.40	8.2%
Receptionists and Information Clerks	842	102	\$14.08	-6.2%
Market Research Analysts and Marketing Specialists	595	81	\$24.52	26.8%
Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other	806	68	\$23.89	8.5%
Management Analysts	644	65	\$36.99	7.0%
Industrial Production Managers	901	65	\$50.27	3.0%
Human Resources Specialists	623	60	\$27.23	0.2%
Financial Managers	574	51	\$48.53	13.0%
Construction Managers	572	50	\$30.53	10.8%
Sales Managers	371	38	\$61.55	12.9%
Computer User Support Specialists	466	37	\$23.02	3.9%
Cost Estimators	369	35	\$27.51	3.8%
Executive Secretaries and Executive Administrative Assistants	353	35	\$25.62	-17.5%
Administrative Services and Facilities Managers	293	27	\$40.16	5.7%

Employment and Demographics: Professional and Business Services

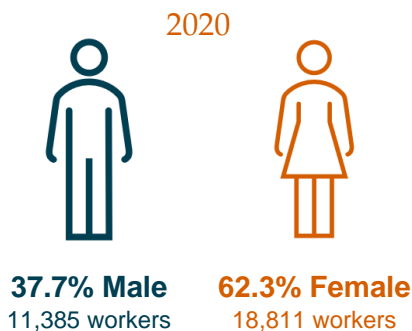
From 2009 to 2019, employment across the 43 target occupations supplied by MCC's business programs grew steadily in the service area to reach an apex of 31,716 jobs — reflecting a 10-year growth rate of 14.1 percent. This sector was largely resilient to pandemic-related job loss, primarily because most tasks associated with these occupations are able to be performed remotely. The industry did shed 1,521 jobs over the year, reflecting a loss of 4.8 percent, but employer demand quickly rebounded to exceed pre-pandemic levels as recently as March 2021.

Over a quarter (27.9%) of the workforce potentially supplied by MCC's business programs are set to reach or exceed retirement age by 2030, meaning the region will need to replace up to 8,429 retirees by 2030. The pandemic has driven heightened demand for credentials and skills related to human resources and customer service that will likely continue over the next decade.

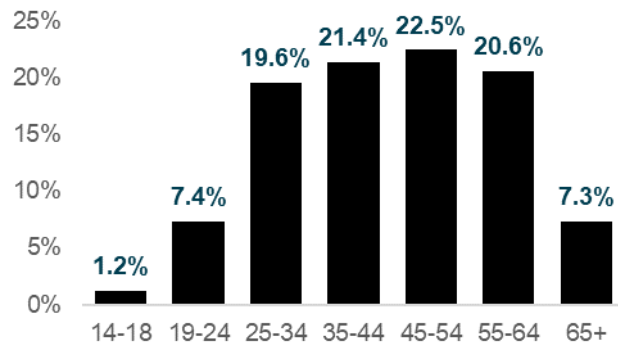
Employment Growth, Indexed to 2009



Gender Distribution



Age Distribution, 2020



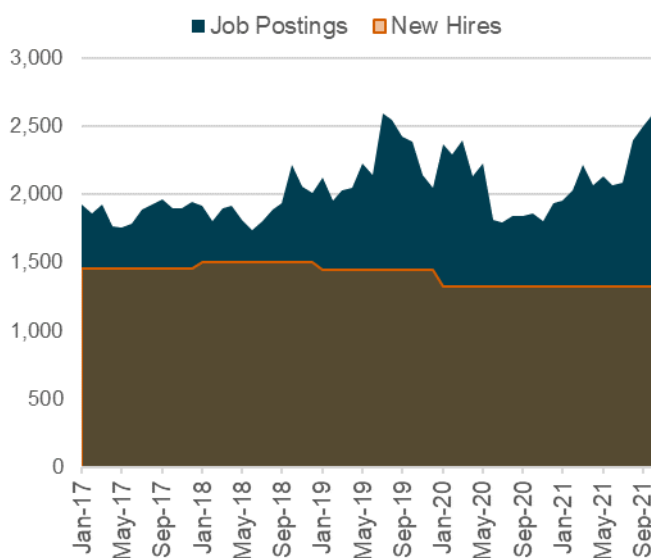
In-Demand Credentials	In-Demand Hard Skills	In-Demand Common Skills
Automotive Service Excellence (ASE) Certification	Merchandising	Customer Service
Certified Pharmacy Technician	Accounting	Sales
Commercial Driver's License (CDL)	Cash Register	Communications
Project Management Professional Certification	Cash Handling	Management
Professional in Human Resources	Auditing	Leadership
Security Clearance	Finance	Operations
ServSafe Certification	Customer Satisfaction	Detail Oriented
Certified Nursing Assistant	Selling Techniques	Problem Solving
SHRM-CP (Society for Human Resources Management)	Deposit Accounts	Basic Math
SHRM-SCP (Society for Human Resources Management)	Customer Experience	Retail Sales

Real-Time Demand: Professional and Business Services

Employer demand in the service area for the 43 target occupations associated with MCC’s business programs dropped to an annual total of 24,300 job postings in 2020, reflecting a monthly average of 2,025 ads. Demand has since rebounded, with an average of 2,247 postings per month for the first three quarters of 2021. This represents an over-the-year growth rate of 10.9 percent, with 222 additional postings each month in 2021 compared to the previous year, and a growth rate of 19.6 percent from the monthly average in 2017 (368 additional postings per month in 2021).

Despite burgeoning demand, the rate of hiring for these target occupations has fallen since 2017, likely due to supply-side constraints. On average, 1,452 new employees were hired each month in 2017 for the 43 roles supplied by MCC’s business programs. That monthly average has since dropped to 1,323 for the first third of 2021. Considering an average of 2,247 job openings were posted and 1,323 people were hired each month in 2021, just 58.9 percent of demand for these target business roles was met. This means that up to 8,316 job openings have gone unfilled over the first three quarters of 2021 in the 32-ZIP code service area alone.

Hires per Job Posting, MCC Service Area
Jan. 2017 – Sept. 2021



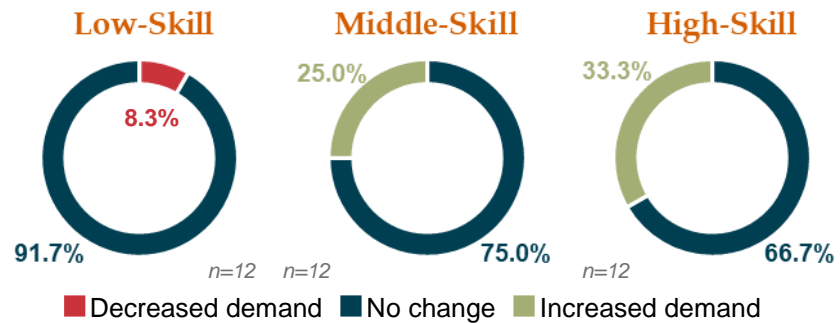
First-line Supervisors of Retail Sales Workers were the most in-demand role in the service area, with an average of 614 job postings per month in 2021. However, Human Resource Managers were the hardest to fill, with an average of 1 new hire for every 10 job postings per month. Marketing Managers, Accountants, Financial Analysts, and Sales Managers also had low ratios of hires per job posting but experienced less demand compared to HR Managers. Professional certification from SHRM, certifications in food safety, and associate degrees in Nursing were among the fastest growing credentials since the pandemic, while skills in customer relations and marketing/branding have also seen significant growth.

High-Growth Credentials	High-Growth Hard Skills	High-Growth Common Skills
SHRM-CP (Society for Human Resource Management Certified...)	Customer Relationship Building	Fine Motor Skills
Food Safety Certification	Business Requirements	Numbers (Spreadsheet)
Associate Degree In Nursing	Go-to-Market Strategy	Public Speaking
SHRM-SCP (Society for Human Resource Management Senior...)	Bilingual (Spanish/English)	Ideation
Security Clearance	Medical Records	Governance
Six Sigma Black Belt Certification	Branding	Recall (Memory)
Certified Pharmacy Technician	Lead Generation	Assertiveness
Certified Internal Auditor	Workforce Planning	Smartphone Operation
Certified Quality Engineer	Tax Laws	Administrative Skills
Series 7 General Securities Representative License (Stockbroker)	Software Product Management	Timelines

Employer Feedback: Professional and Business Services

Professional and Business Services was the only sector to have an employer report decreased demand since the pandemic, which was attributed to low-skill positions. A majority of employers across all skill levels indicated that demand for business positions hasn't changed since the pandemic, although 25 percent saw demand increase for middle-skill roles and 33 percent reported more demand for high-skill roles.

Change in Demand Since Pandemic by Skill Level



Average Difficulty Finding Candidates

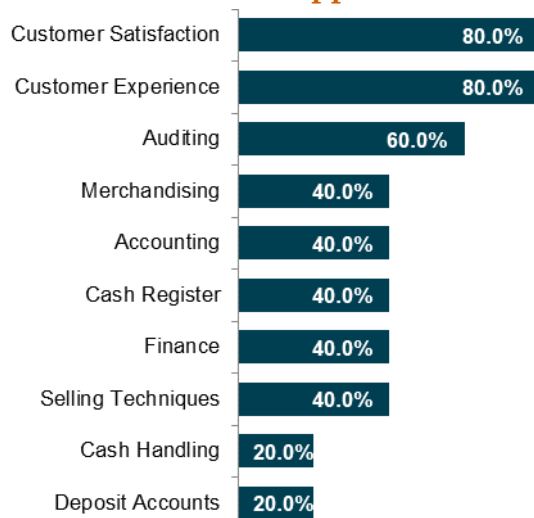
(1=No difficulty, 5=Extreme difficulty)



Customer satisfaction and customer experience were cited as the most in-demand and undersupplied skills in the sector, with 80 percent of responses, indicative of the growing value of social-emotional skills observed across sectors even before the pandemic. Auditing was the third most difficult to find skill in this sector, and every employer reported it would become even more in-demand over the coming years (see appendix 3). Skills and credentials associated with data analytics, client relations, digital marketing, library science, finance, and accounting were also expected to grow in value over the coming years. Interestingly, no employers mentioned demand for skills in supply chain management, although a few respondents referenced difficulty sourcing childcare workers.

When asked to rank the level of difficulty finding qualified candidates since the pandemic for the top target occupations in this sector, from (1) "no difficulty" to (5) "extreme difficulty," employers reported that Personal Service Managers and Sales Managers were the hardest roles to fill, both with a weighted average difficulty of 4. Industrial Production Managers (3.67), Management Analysts (3.5), and Project Managers (3.38) also ranked high in terms of hard-to-fill occupations. When asked which occupations are expected to see increased demand by 2026 (see appendix 3), 41.7 percent of respondents indicated Project Managers, trailed by Market Research Analysts and Marketing Specialists (33.3%) and Financial Managers (33.3%).

Which Skills are In-Demand and Undersupplied?



Recommendations

The following recommendations were developed using feedback gathered from MCC faculty members through a series of focus groups conducted in January 2022. These recommendations are intended to help the college adapt to changing market conditions by improving enrollment and reducing time to completion among in-demand programs to ensure employers in the service area have access to a steady pipeline of talent to meet their current and long-term needs.

Improve Marketing and Employer Engagement

Every department indicated that the college currently has the capacity to meet greater student demand, and every department indicated the college could do more to market their programs to the public — especially among K-12 students, CTE students, and employers. The biggest areas of opportunity appear to be awareness among K-12 students and engagement among employers, although there could be opportunities to further educate the community about high-wage, high-growth occupations aligned to MCC programs and the return on investment associated with obtaining these in-demand credentials.

Articulation agreements with local Career Tech Centers have contributed to heightened enrollment in some MCC programs, particularly applied technology and business, but the capacity among these local providers can only meet a fraction of the demand among K-12 students. To increase awareness of MCC's programmatic offerings among K-12 students throughout the service area, the college should consider partnering with Muskegon ISD to act as a satellite location for the local Career Tech Center. This would allow the college to market programs to a larger volume of middle and high school students while leveraging existing facilities and resources, and provide an opportunity for K-12 students to experience all that MCC's campus has to offer — especially students from disadvantaged communities who might not feel comfortable traveling across town to receive programming at the local tech center.

To increase engagement among employers while boosting enrollment among working adults, the college should strive to help more employers understand the alignment between their own internal career pathways and programs at MCC. Several faculty members referenced this gap, where employers will direct workers to the college to upskill without providing guidance as to which programs align to better-paying roles in their companies. Resolving this issue could be achieved by partnering with employers to provide on-site 'college fairs' to employees — similar to the DiscoverEducation@Work initiative — which will educate workers about MCC programs and funding options available through their employer or statewide scholarships like Michigan Reconnect. A more advanced approach to bolster employer engagement would involve MCC career advisers working alongside HR leaders of local companies to co-create customized training plans for employees aligned to an organization's talent needs, providing an additional opportunity to explore employer-provided incentives to improve completion rates, like scheduling flexibility or paying employees to attend class.

Embrace Hybrid/Asynchronous Courses

Lack of flexibility was referenced by nearly every focus group participant as a major barrier affecting enrollment and completion, especially among part-time students who are often forced to balance conflicting work and education schedules. It would seem, in large part, that the demands on these working students have grown substantially since the pandemic and subsequent labor shortages, resulting in many feeling too exhausted from work to attend in-person lectures on a regular basis. It's clear that employers could be doing more to provide the flexibility necessary to allow employees to adjust their workloads in accordance with the class schedules, but MCC could also be doing more to relieve the burden on employed learners.

Hybrid or asynchronous courses are an ideal method to allow students to balance the various demands on their time arising from life, work, and education, while eliminating the barrier often presented by limited access to a reliable and consistent mode of transportation. The appetite among students would support this transition, as survey results indicate that over 87 percent of MCC students desire more virtual instruction, but these courses should be supplemented with self-made video content from faculty to provide students with a personalized experience. This would distinguish MCC's online programming from other entirely virtual colleges while strengthening the connection between students and their professors, which has the potential to improve outcomes for students who might otherwise be hesitant to ask for help.

The shift to online learning could be difficult to fully implement for some programs, like Nursing or Automotive Technology, which typically rely on in-person instruction and students must attain a certain number of lab hours to obtain licensure through the state. In these instances, the college should embrace a hybrid model by offering asynchronous options for any general education courses that do not explicitly require in-person activities, and determine how to increase flexibility for those that require on-site training. This could include offering options at various days and times throughout the week to accommodate varying schedules, or allowing students to log hours at satellite locations (like a local tech center).

Develop Microcredential Pathways

The U.S. Department of Labor defines a microcredential as being “part of a sequence of credentials that can be accumulated over time to build up an individual’s qualifications and help them to move along a career pathway or up a career ladder to different and potentially higher-paying jobs.” Essentially, microcredentials are stackable building blocks where each short-term credential or badge that a person earns can build into a higher-level credential, which provides more on and off ramps for individuals than traditional program models can offer. Each microcredential improves a student’s potential to obtain a better-paying job by providing the technical knowledge and skills local employers desire through an intense, short-term and competency-based program model. This method provides economic mobility to individuals over time through a series of incremental wage increases as credentials continue to stack, rather than waiting an average of three years until an associate degree is obtained, and individuals and education and training providers are afforded more flexibility to pivot as the market continues to evolve and new in-demand skills emerge.

Although there is currently no industry-wide standard for developing a microcredential, organizations like Google, Coursera, CISCO, and even [LinkedIn](#) have found success through short-term, bootcamp-style training modules that award digital badges to validate skill attainment. When determining where to begin, MCC should leverage feedback from local employers to identify which current course offerings could be bundled into short-term, stackable credentials that align with the skill sets businesses need. Associate degree programs should still exist, but each 60-credit requirement should be bundled into three or four smaller component parts (i.e., microcredentials) to recognize and reward students for progressing along an education pathway. The college has already created one such example in the Customer Service Specialist certificate, which bundles four courses in the Associate in Applied Science in Marketing Degree program into a short-term certificate that provides in-demand customer service skills.

Once current programs are bundled into stackable microcredentials, the college should explore ways to provide even shorter-term formats to deliver training over the course of a few weeks or even several full-day sessions. These courses would be more intense and less time-consuming, but would likely appeal more to employers looking to rapidly train their current employees in a particular skill. If the credential awarded through these programs is transferrable and industry-recognized, it could potentially qualify for funding through the [Going Pro Talent Fund](#), which would reduce the cost for employers and further incentivize investments in upskilling — ultimately increasing enrollment and employer engagement at MCC, while providing students with greater flexibility to learn at their own pace.

Sources

Page	Source
1	U.S. Census Bureau, Population Estimates, 2000-2010 Intercensal Estimates U.S. Census Bureau, Population Estimates, 2019 Population Estimates U.S. Census Bureau, American Community Survey, 2015-2019 5-Year Estimates
2	U.S. Census Bureau, American Community Survey, 2015-2019 5-Year Estimates
3-8	Emsi Burning Glass U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages U.S. Census Bureau, OnTheMap Application, Longitudinal-Employer Household Dynamics, 2019 data
9-13	U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics U.S. Bureau of Labor Statistics, Long-Term Occupational Employment Projections U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages
14-17	Emsi Burning Glass
18	Emsi Burning Glass National Center for Education Statistics, CIP to SOC Crosswalk National Center for Education Statistics, Integrated Postsecondary Education Data System U.S. Bureau of Labor Statistics, Long-Term Occupational Employment Projections U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics
19	Emsi Burning Glass National Center for Education Statistics, CIP to SOC Crosswalk U.S. Bureau of Labor Statistics, Long-Term Occupational Employment Projections U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics
21-36	Emsi Burning Glass Talent 2025 Survey of Employers U.S. Bureau of Labor Statistics, Long-Term Occupational Employment Projections U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages
37-38	MCC Faculty Focus Groups, conducted on January 5, 2022

Appendices

Appendix 1

The following 32 ZIP codes are located within a 30-minute commute of Muskegon Community College and comprise the college's service area for the purposes of this report:

ZIP Code	ZIP Name
49303	Bailey
49318	Casnovia
49327	Grant
49337	Newaygo
49349	White Cloud
49403	Conklin
49404	Coopersville
49409	Ferrysburg
49412	Fremont
49413	Fremont
49415	Fruitport
49417	Grand Haven
49421	Hesperia
49425	Holton
49435	Marne
49437	Montague
49440	Muskegon
49441	Muskegon
49442	Muskegon
49443	Muskegon
49444	Muskegon
49445	Muskegon
49446	New Era
49448	Nunica
49451	Ravenna
49452	Rothbury
49455	Shelby
49456	Spring Lake
49457	Twin Lake
49460	West Olive
49461	Whitehall
49463	Sylvan Beach

Appendix 2

The following CIP codes and corresponding MCC programs are made to create sector definitions:

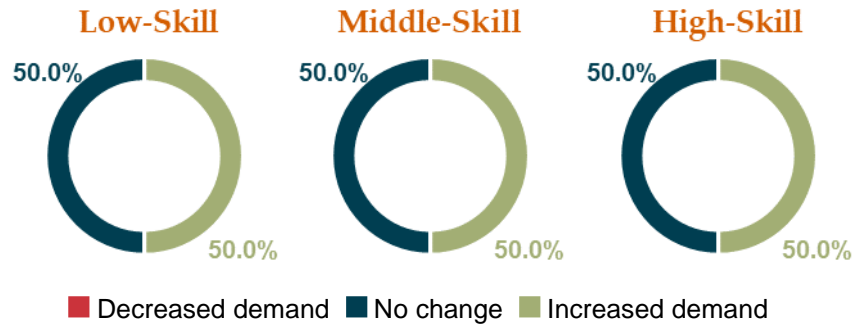
Sector	CIP Code	Program Name
Health Care	51.0000	Health Science - ASA (HESCI.ASA)
	51.0705	Administrative Office Management Medical - AAS (ADOMM.AAS)
	51.0710	Administrative Medical Assistant-Certificate (ADMAC_CERT)
	51.0801	Medical Assistant Certificate (MEDAS_CERT)
	51.0812	Respiratory Therapy-AAS (RSPT.AAS)
	51.1105	Nursing Wait List for New Students (NURS_WAIT)
	51.2601	Healthcare Support Assistant-Certificate (HESUA_CERT)
	51.3801	Nursing-AAS (NURS.AAS)
	51.3901	Nursing-Diploma (NURS_DIPL)
Information Technology	11.0201	Software Development - AAS (CISSD.AAS)
	11.0202	C/Java Computer Programming-Certificate (CISC_CERT)
	11.0202	Midrange Programming-Certificate (CISMP_CERT)
	11.0801	Graphic Design Web Design-Certificate (GRDW_CERT)
	11.0801	Web Design-AAS (WEBD.AAS)
	11.0801	Website Development Entrepreneur - AAS (EWSD.AAS)
	11.0901	Computer Networking Entrepreneur-AAS (ECNS.AAS)
	11.0901	Computer Networking Technology-Associate in Appl Science (CISN.AAS)
	11.0901	Computer Networking Technology-Certificate (CISN_CERT)
	11.0901	Networking and IT Security AAS (CISNS.AAS)
	11.1006	Information Technology Support - AAS (CISSU.AAS)
11.1006	Networking CISCO Certificate (CISCO_CERT)	
Manufacturing	48.0503	Machining Technology-AAS (MACH.AAS)
	48.0503	Machining Technology-Certificate (MACH_CERT)
	48.0506	Patternmakers Certificate (PATTM_CERT)
	48.0508	Welding Technology-AAS (WELD.AAS)
	48.0508	Welding Technology-Certificate (WELD_CERT)
	48.0510	CAD/CNC-AAS (CADCN.AAS)
	48.0510	CAD/CNC-Certificate (CADCN_CERT)
Professional and Business Services	52.0101	Business Pathway ASA (BUSPW.ASA)
	52.0201	Management-AAS (MGMT.AAS)
	52.0207	Customer Service Specialist-Professional Development Cred (CUST_PROF)
	52.0302	Bookkeeping Services Entrepreneurial- AAS (EBOS.AAS)
	52.0401	Administrative/Office Management-AAS (ADOMG.AAS)
	52.0401	Office Assistant-Certificate (OFASS_CERT)
	52.0701	Entrepreneurship (ENTRE_CERT)
	52.1401	Marketing-AAS (MKTG.AAS)

Appendix 3 | Employer Survey Results

Health Care

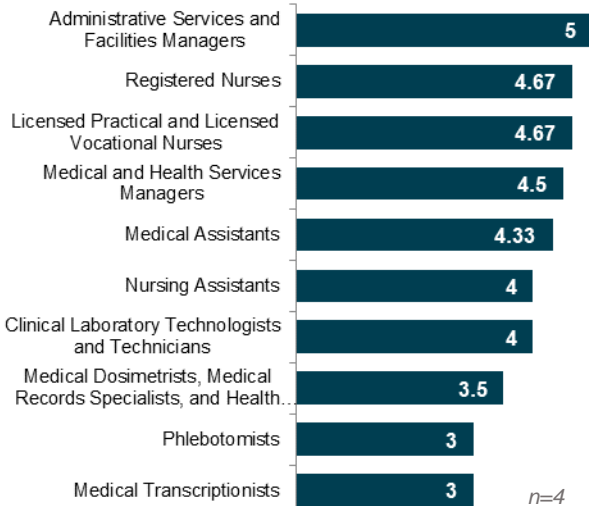
The following figures reflect the survey responses of four Health Care employers in the MCC service area when asked a series of questions regarding current and future demand for the occupations, credentials, and skills listed on pages 19-21.

Change in Demand Since Pandemic by Skill Level

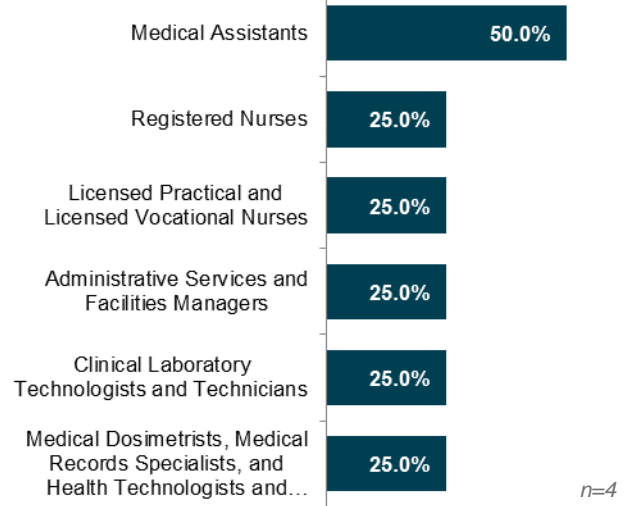


Average Difficulty Finding Candidates

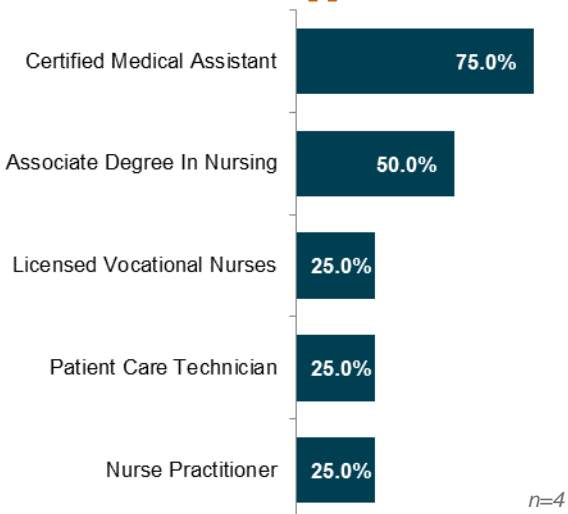
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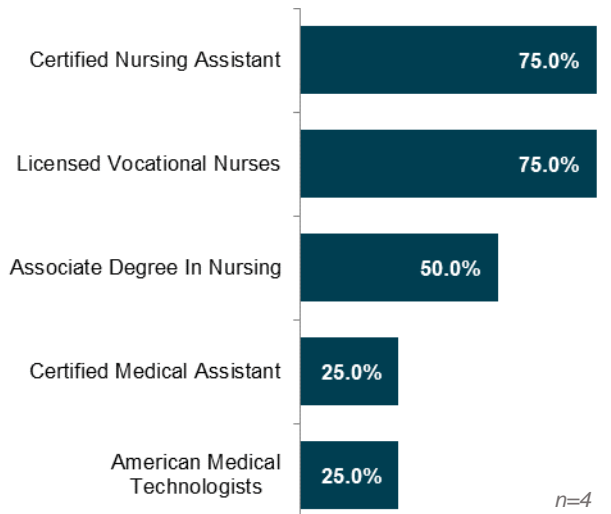
Which Occupations Are Expected to See Increased Demand by 2026?



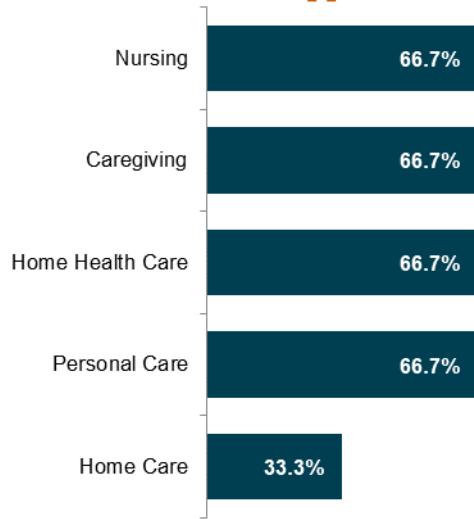
Which Credentials are In-Demand and Undersupplied?



Which Credentials are Expected to See Increased Demand by 2026?

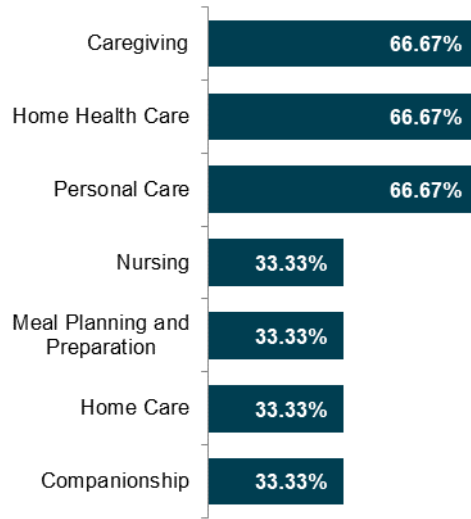


Which Skills are In-Demand and Undersupplied?



n=3

Which Skills are Expected to See Increased Demand by 2026?



n=3

Additional Hard-to-Fill Roles Since the Pandemic

- Front Desk/Receptionist
- Medical Technician
- Direct Care Workers

Additional Credentials Expected to be In-Demand by 2026

- Accounting
- Contract Management
- Grant Management
- Surgical Technician

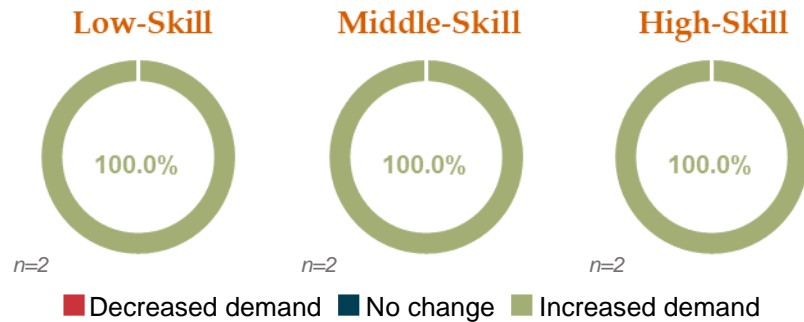
Additional Skills Expected to be In-Demand by 2026

- In-Home Care
- Emotional Intelligence

Information Technology

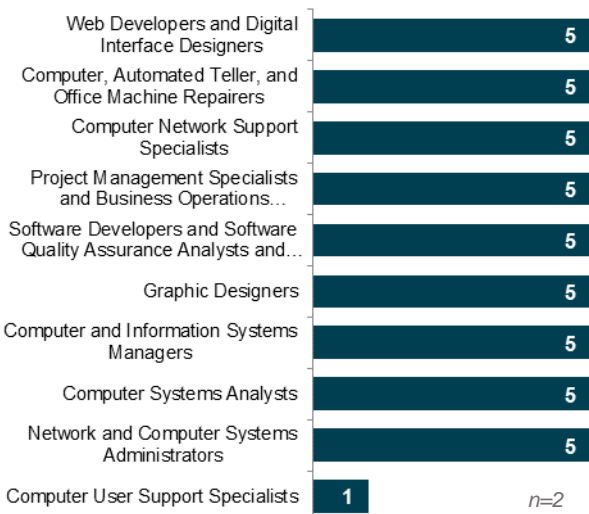
The following figures reflect the survey responses of 2 IT employers in the MCC service area when asked a series of questions regarding current and future demand for the occupations, credentials, and skills listed on pages 23-25.

Change in Demand Since Pandemic by Skill Level

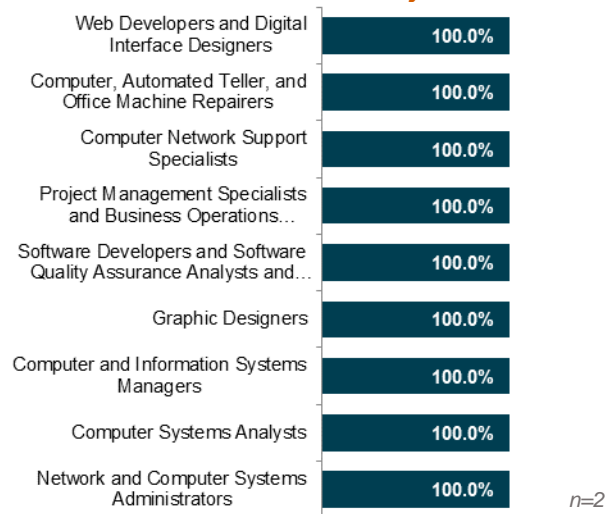


Average Difficulty Finding Candidates

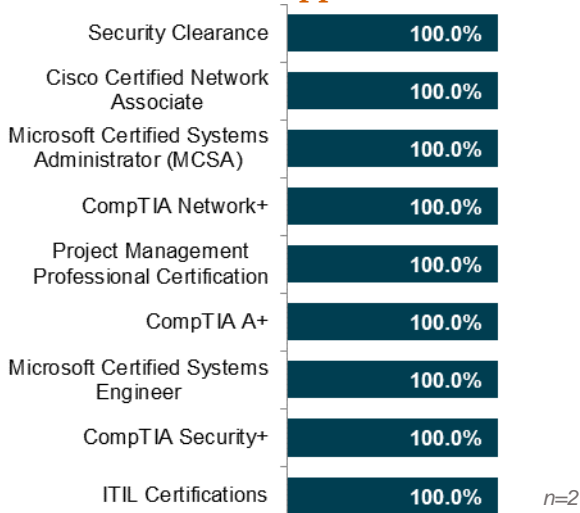
(1=No difficulty, 5=Extreme difficulty)



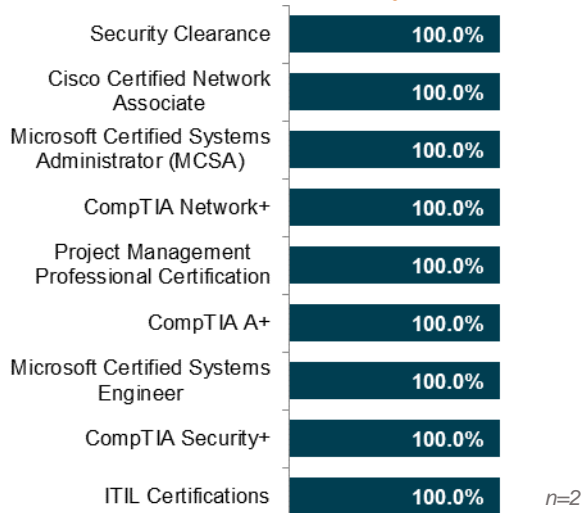
Which Occupations Are Expected to See Increased Demand by 2026?



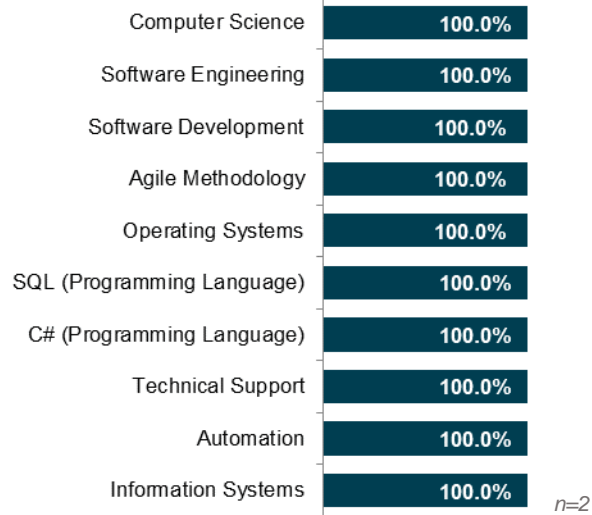
Which Credentials are In-Demand and Undersupplied?



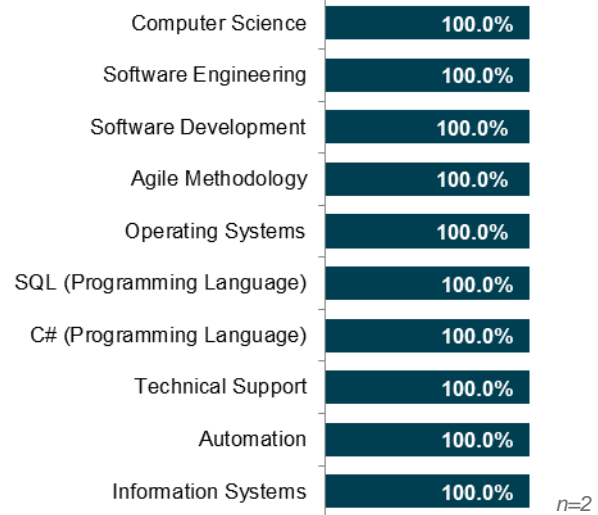
Which Credentials are Expected to See Increased Demand by 2026?



Which Skills are In-Demand and Undersupplied?



Which Skills are Expected to See Increased Demand by 2026?



Additional Roles Expected to be In-Demand by 2026

- Electronics Technicians
- Data Scientists/Analysts
- AI Engineer
- Security Engineer

Additional Credentials Expected to be In-Demand by 2026

- Cloud Security Certification
- Data Privacy Solutions
- Project Management Professional

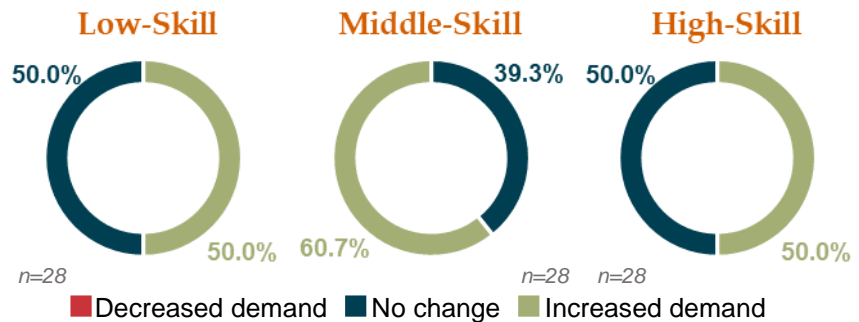
Additional Skills Expected to be In-Demand by 2026

- Machine Learning
- Cybersecurity
- Cloud Computing
- Digital Marketing

Manufacturing

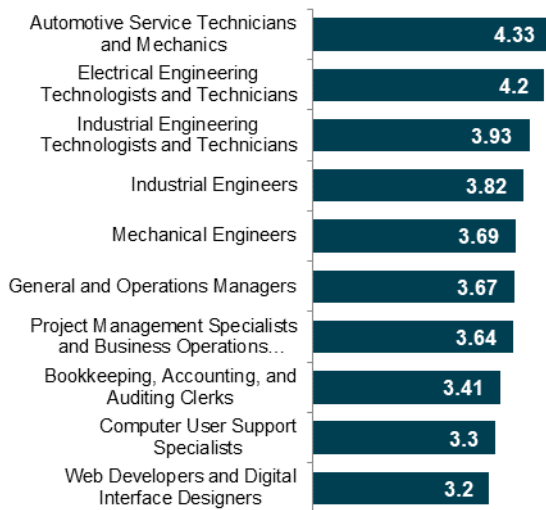
The following figures reflect the survey responses of 28 manufacturers in the MCC service area when asked a series of questions regarding current and future demand for the occupations, credentials, and skills listed on pages 27-29.

Change in Demand Since Pandemic by Skill Level

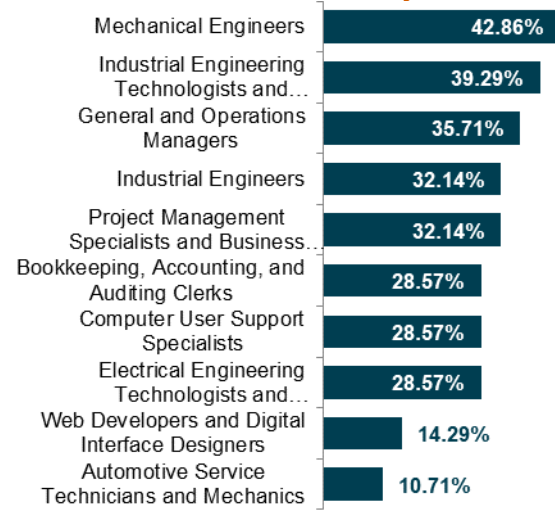


Average Difficulty Finding Candidates

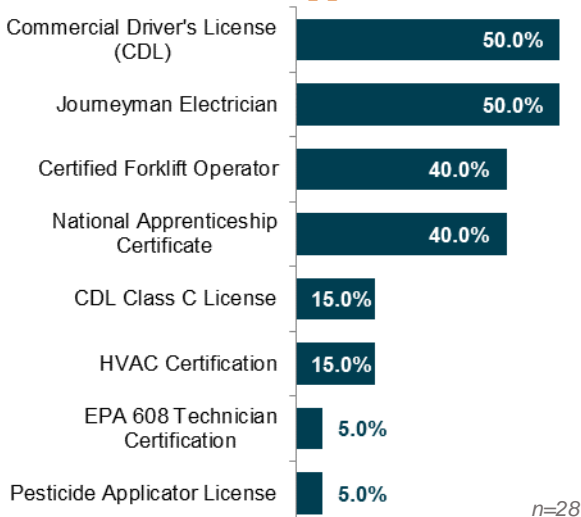
(1=No difficulty, 5=Extreme difficulty)



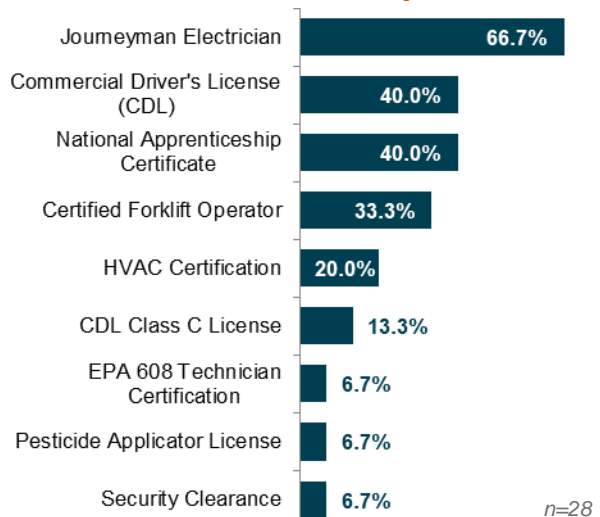
Which Occupations Are Expected to See Increased Demand by 2026?



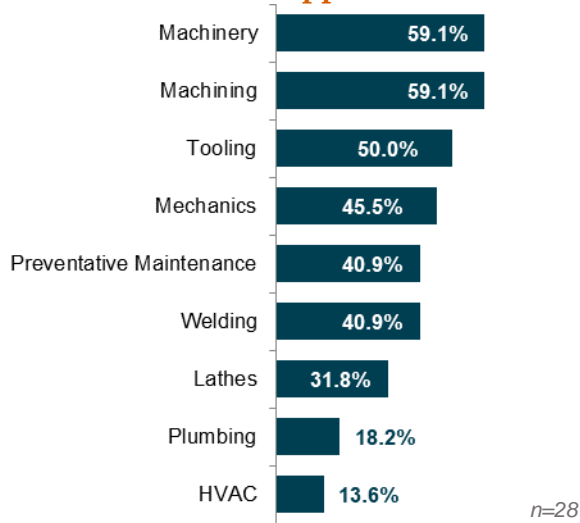
Which Credentials are In-Demand and Undersupplied?



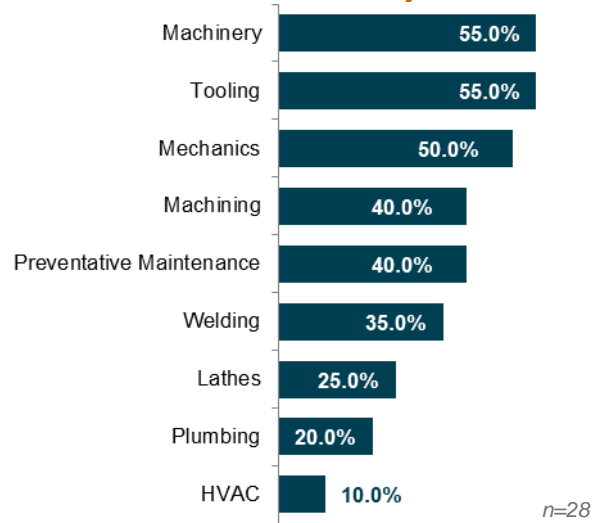
Which Credentials are Expected to See Increased Demand by 2026?



Which Skills are In-Demand and Undersupplied?



Which Skills are Expected to See Increased Demand by 2026?



Additional Hard-to-Fill Roles Since the Pandemic

- Sales Representatives, Consultants, and Managers
- Welders/Fabricators and Pipefitters
- Electrical Technicians (journeyman)
- Chemical Engineers
- CNC Machinists and Programmers

Additional Credentials Expected to be In-Demand by 2026

- Welding/Sheet Metal Fabrication (journeyman)
- Maintenance Technicians
- Human Resources (all)

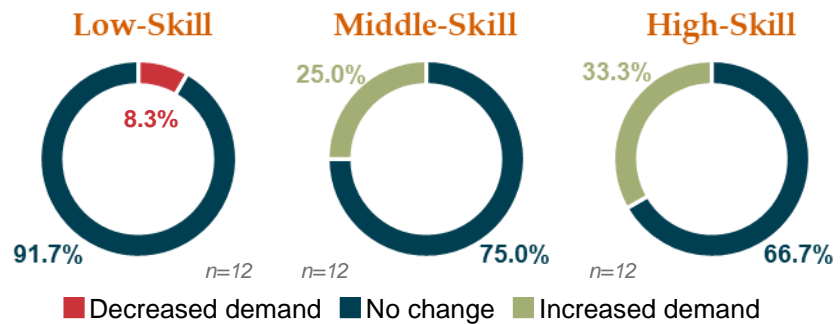
Additional Skills Expected to be In-Demand by 2026

- Human Relations (e.g., communication)
- Machining and Tooling
- Sheet Metal Fabrication (welding, brake press, laser operations)
- Sewing

Professional and Business Services

The following figures reflect the survey responses of 12 employers in the MCC service area when asked a series of questions regarding current and future demand for the occupations, credentials, and skills listed on pages 31-33.

Change in Demand Since Pandemic by Skill Level



Average Difficulty Finding Candidates

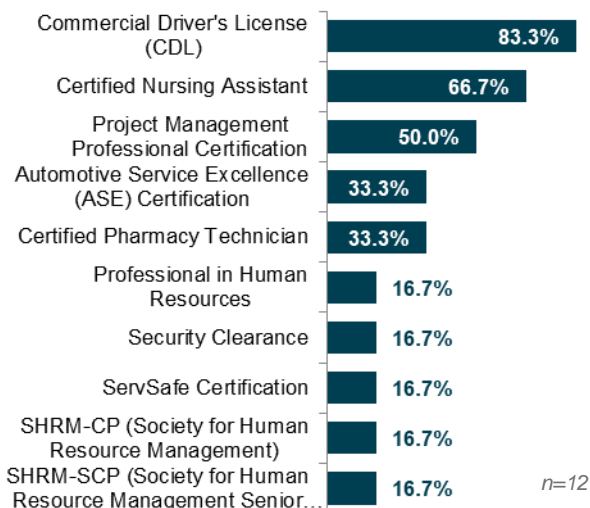
(1=No difficulty, 5=Extreme difficulty)



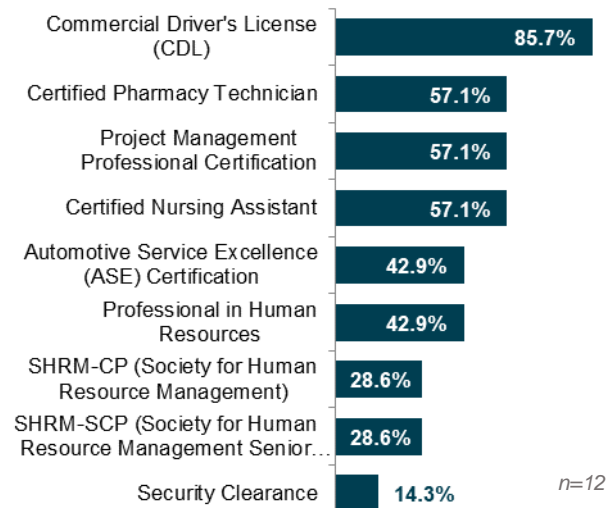
Which Occupations Are Expected to See Increased Demand by 2026?



Which Credentials are In-Demand and Undersupplied?



Which Credentials are Expected to See Increased Demand by 2026?



Which Skills are In-Demand and Undersupplied?



n=12

Which Skills are Expected to See Increased Demand by 2026?



n=12

Additional Hard-to-Fill Roles Since the Pandemic

- Calibration Technicians
- Electrical Engineers
- Lab Technicians
- Childcare Workers

Additional Credentials Expected to be In-Demand by 2026

- Industrial Electronics
- Digital Marketing/Sales
- Library Science
- Childcare (associate)

Additional Skills Expected to be In-Demand by 2026

- Client Relations (sales)
- Library Science
- Data Analytics



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