Workforce Trends & Careers of Tomorrow
For Career & Technical Education

RealTime Talent
Erin Olson, Director of Strategic Research
December 5th, 7th, and 14th 2022

The contents of this series were made possible through the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) Federal grant from the United States Department of Education administered through Minnesota State Colleges and Universities.
Who’s in the Virtual “Room”

In the chat field, please share your name, your role, and the organization that you represent.
Workforce Trends & Careers of Tomorrow
For Career & Technical Education
Southern Minnesota

RealTime Talent
Erin Olson, Director of Strategic Research
December 14, 2022

Access the full report here: http://www.realtimetalent.org
Overview

- Community Profile
- Workforce Forecast
- Talent Shortage
- Emerging Career Paths
- Career Cluster Overview
- Career Field Insights

Access the full reports here: http://www.realtimetalent.org
Community Profile

Population Race, All Ages

<table>
<thead>
<tr>
<th>Location</th>
<th>White</th>
<th>American Indian or Alaska Native</th>
<th>Black or African American</th>
<th>Asian</th>
<th>Native Hawaiian or Other Pacific Islander</th>
<th>Some Other Race</th>
<th>Two or More Races</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin</td>
<td>85.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winona</td>
<td>92.8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rochester</td>
<td>86.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southeast</td>
<td>87.8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td>81.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Population of Hispanic/Latinx

- Austin: 3.7%, 4.9%
- Winona: 1.2%, 2.6%
- Rochester: 4.8%, 4.4%
- Southeast: 3.9%, 4.0%
- Minnesota: 6.4%, 4.9%
Community Profile

Annual Percent Change in Employment

- Southeast Minnesota (2.3%)
- Southwest Minnesota (1.9%)
- Minnesota (3.3%)

Source: JobsEQ®. Data as of 2022Q2. The shaded areas of the graph represent national recessions.
Community Profile

Regional Unemployment Rate

- Southeast Minnesota (1.4%)
- Southwest Minnesota (1.5%)
- Minnesota (1.7%)

Source: JobsEQ. Data as of Oct 2022. The shaded areas of the graph represent national recessions.
Community Profile

Average Wage Changes from Prior Year

- Southeast Minnesota (3.4%)
- Southwest Minnesota (5.0%)
- Minnesota (5.9%)

Source: BLS. Data as of 2022Q2. The shaded areas of the graph represent national recessions.
Community Profile

Educational Attainment, Age 25-64

- **Owatonna**: 6.4% No High School Diploma, 27.3% High School Graduate or GED, 22.4% Some College, No Degree, 14.4% Associate's Degree, 20.9% Bachelor's Degree, 8.6% Postgraduate Degree
- **Faribault-Northfield**: 8.2% No High School Diploma, 29.9% High School Graduate or GED, 20.3% Some College, No Degree, 13.8% Associate's Degree, 18.0% Bachelor's Degree, 9.8% Postgraduate Degree
- **Mankato**: 5.1% No High School Diploma, 23.2% High School Graduate or GED, 20.6% Some College, No Degree, 14.8% Associate's Degree, 25.0% Bachelor's Degree, 11.4% Postgraduate Degree
- **Southwest**: 7.3% No High School Diploma, 28.5% High School Graduate or GED, 23.0% Some College, No Degree, 15.8% Associate's Degree, 18.0% Bachelor's Degree, 7.4% Postgraduate Degree
- **Minnesota**: 6.1% No High School Diploma, 21.4% High School Graduate or GED, 20.6% Some College, No Degree, 12.9% Associate's Degree, 26.1% Bachelor's Degree, 13.0% Postgraduate Degree

American Community Survey 2016-2020.
Community Profile

Educational Attainment, Age 25-64

- Austin: 12.7% No High School Diploma, 29.4% High School Graduate or GED, 20.9% Some College, No Degree, 13.9% Associate's Degree, 16.7% Bachelor's Degree, 6.3% Postgraduate Degree
- Winona: 5.1% No High School Diploma, 23.4% High School Graduate or GED, 22.1% Some College, No Degree, 17.3% Associate's Degree, 22.5% Bachelor's Degree, 9.5% Postgraduate Degree
- Rochester: 5.2% No High School Diploma, 20.1% High School Graduate or GED, 18.1% Some College, No Degree, 13.8% Associate's Degree, 25.7% Bachelor's Degree, 17.0% Postgraduate Degree
- Southeast: 6.0% No High School Diploma, 22.3% High School Graduate or GED, 19.1% Some College, No Degree, 14.7% Associate's Degree, 23.8% Bachelor's Degree, 14.1% Postgraduate Degree
- Minnesota: 6.1% No High School Diploma, 21.4% High School Graduate or GED, 20.6% Some College, No Degree, 12.9% Associate's Degree, 26.1% Bachelor's Degree, 13.0% Postgraduate Degree

American Community Survey 2016-2020.
Community Profile

Southwest Minnesota

• Gross Regional Product (GRP) rose +8.0%
• Manufacturing contributes most to GRP
Community Profile

Southeast Minnesota

- Gross Regional Product (GRP) rose +8.8%
- Healthcare contributes most to GRP
Workforce of Today & Tomorrow

Forecast

5-Year Forecast Comparison in Southwest Minnesota

0.0% Average Annual Employment Growth Forecast
Workforce of Today & Tomorrow

Forecast

Southeast Minnesota

0.5% Average Annual Employment Growth Forecast
Polling Question

When you think about the current economic situation in your community, which of the following career fields do you feel has the most challenging or pressing workforce needs to be addressed right now? (select up to two)

1. Agriculture, Food, and Natural Resources
2. Arts, Communications, and Information Systems
3. Business, Management, and Administration
4. Engineering, Manufacturing, and Technology
5. Health Science Technology
6. Human Services
Polling Question

When you think about your local school, district, or consortium’s programming, how well do you feel current program offerings address your community’s most challenging or pressing workforce needs right now?

1. To a Great Extent
2. Somewhat
3. Very Little
4. Not At All
5. I Do Not Know
Workforce of Today & Tomorrow

Forecast

Industry Clusters for Southwest Minnesota as of 2022Q2

Agricultural LQ: 4.80
Chemical LQ: 1.69
Coal/Oil/Power LQ: 0.94
Pharmaceutical LQ: 0.75
Electric/Electronics Mfg. LQ: 1.47
Metal & Product Mfg. LQ: 1.65
Food Mfg. LQ: 1.96
Utilities LQ: 0.88
Education LQ: 1.01
Health LQ: 1.08
Textile/Leather LQ: 2.13
Media LQ: 1.64

Average Annual Employment Forecast Rate(%) 2022Q2-2032Q2

Average Wages ($1,000s)

Source: JobEIQ, Data as of 2022Q2.

RealTimeTalent
Using data to build the world's best workforce
Workforce of Today & Tomorrow

Forecast

Industry Clusters for Southeast Minnesota as of 2022Q2

Southeast Minnesota
Southwest
unemployment rate:
2.5%

Southeast
unemployment rate:
2.2%

*As of 2022Q2
Talent Shortage

Occupation Gaps

Southwest

- General and Operations Managers ($87,300): -36
- Cooks, Restaurant ($31,200): -38
- Registered Nurses ($77,800): -28
- Software Developers ($94,100): -19
- Heavy and Tractor-Trailer Truck Drivers ($50,200): -17
- Industrial Machinery Mechanics ($56,400): -16
- Medical and Health Services Managers ($89,800): -15
- Maintenance and Repair Workers, General ($45,800): -14
- Industrial Engineers ($86,700): -12
- Elementary School Teachers, Except Special Education ($60,600): -12

Southeast

- Registered Nurses ($35,600): -47
- Nurse Practitioners ($127,400): -43
- Medical and Health Services Managers ($105,700): -19
- Medical Assistants ($43,400): -18
- Cooks, Restaurant ($32,200): -16
- General and Operations Managers ($96,200): -16
- Physician Assistants ($123,200): -16
- Software Developers ($100,600): -14
- Licensed Practical and Licensed Vocational Nurses ($52,100): -12
- Maintenance and Repair Workers, General ($45,400): -8

New in 2022

1) Software Developers now ranks as top occupation of shortage statewide, but rank 4th in the Southwest and 8th in the Southeast

2) Two new occupations of the top 10 roles in highest talent shortage are Origin and Gateway Careers that typically require an industry credential: Restaurant Cooks and Maintenance and Repair Workers
Emerging Career Paths

Total Jobs Advertised Monthly in Minnesota, October 2021-2022

89,639 unique job postings in the Southwest (+17%)

54,664 unique job postings in the Southeast region (+27%)

SOURCE: Gartner TalentNeuron Plan accessed 11/3/2022

Chmura Economics JobsEQ, 2022Q2 dataset.
Emerging Career Paths

Total Remote Job Postings Advertised Monthly in Southwest

Total Remote Job Postings Advertised Monthly in Southeast Minnesota, October 2021-2022

SOURCE: Gartner TalentNeuron Plan accessed 11/30/2022
### Career Cluster Overview

<table>
<thead>
<tr>
<th>Career Cluster</th>
<th>Minnesota</th>
<th>MSP Metro</th>
<th>Northeast</th>
<th>Northwest</th>
<th>Central</th>
<th>Southwest</th>
<th>Southeast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science, Technology, Engineering &amp; Mathematics</td>
<td>6.2% (+)</td>
<td>6.5% (+)</td>
<td>-3.3%</td>
<td>3.0% (+)</td>
<td>6.8% (+)</td>
<td>2.1% (+)</td>
<td>2.9% (+)</td>
</tr>
<tr>
<td>Information Technology</td>
<td>11.6% (+)</td>
<td>11.0% (+)</td>
<td>0.3%</td>
<td>4.7% (+)</td>
<td>8.4% (+)</td>
<td>1.1% (+)</td>
<td>5.7% (+)</td>
</tr>
<tr>
<td>Finance</td>
<td>1.8% (+)</td>
<td>1.4%</td>
<td>-4.8%</td>
<td>-0.5% (+)</td>
<td>2.0%</td>
<td>-4.2%</td>
<td>0.8% (+)</td>
</tr>
<tr>
<td>Health Science</td>
<td>10.1% (+)</td>
<td>12.0% (+)</td>
<td>2.0%</td>
<td>6.9% (+)</td>
<td>10.3% (+)</td>
<td>4.3% (+)</td>
<td>10.5% (+)</td>
</tr>
<tr>
<td>Law, Public Safety, Corrections &amp; Security</td>
<td>5.4% (+)</td>
<td>6.1% (+)</td>
<td>-1.1%</td>
<td>3.5% (+)</td>
<td>6.4%</td>
<td>0.6% (+)</td>
<td>5.8% (+)</td>
</tr>
<tr>
<td>Government &amp; Public Administration</td>
<td>2.8% (+)</td>
<td>2.9% (+)</td>
<td>-3.2%</td>
<td>2.2% (+)</td>
<td>4.9% (+)</td>
<td>-0.4% (+)</td>
<td>2.5% (+)</td>
</tr>
<tr>
<td>Business, Management &amp; Administration</td>
<td>-0.3% (+)</td>
<td>0.1% (+)</td>
<td>-7.0%</td>
<td>-3.1% (+)</td>
<td>0.2% (+)</td>
<td>-6.2% (+)</td>
<td>2.5% (+)</td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td>3.7% (+)</td>
<td>4.6% (+)</td>
<td>-2.8%</td>
<td>2.0% (+)</td>
<td>6.1%</td>
<td>-0.8% (+)</td>
<td>2.7% (+)</td>
</tr>
<tr>
<td>Arts, AV Technology &amp; Communications</td>
<td>3.9% (+)</td>
<td>4.9% (+)</td>
<td>-2.1% (+)</td>
<td>0.2% (+)</td>
<td>4.0% (+)</td>
<td>-6.3% (+)</td>
<td>0.2% (+)</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>10.3% (+)</td>
<td>12.9% (+)</td>
<td>3.5% (+)</td>
<td>7.0% (+)</td>
<td>10.0% (+)</td>
<td>3.2% (+)</td>
<td>7.1% (+)</td>
</tr>
<tr>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>6.0% (+)</td>
<td>7.0% (+)</td>
<td>-3.0% (+)</td>
<td>-1.0% (+)</td>
<td>2.0% (+)</td>
<td>-5.0% (+)</td>
<td>-1.0% (+)</td>
</tr>
<tr>
<td>Marketing, Sales &amp; Service</td>
<td>-0.6% (+)</td>
<td>0.8% (+)</td>
<td>-9.5%</td>
<td>-4.5% (+)</td>
<td>-1.0%</td>
<td>-7.5% (+)</td>
<td>-4.3% (+)</td>
</tr>
<tr>
<td>Transportation, Distribution &amp; Logistics</td>
<td>7.1% (+)</td>
<td>8.6% (+)</td>
<td>-1.4% (+)</td>
<td>2.9% (+)</td>
<td>7.7% (+)</td>
<td>0.6% (+)</td>
<td>3.9% (+)</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>-0.7% (+)</td>
<td>0.3% (+)</td>
<td>-6.5% (+)</td>
<td>-3.6% (+)</td>
<td>2.2% (+)</td>
<td>-5.1% (+)</td>
<td>-2.9% (+)</td>
</tr>
<tr>
<td>Human Services</td>
<td>20.0% (+)</td>
<td>22.6% (+)</td>
<td>11.5% (+)</td>
<td>15.8% (+)</td>
<td>19.2% (+)</td>
<td>13.2% (+)</td>
<td>16.8% (+)</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>17.3% (+)</td>
<td>18.4% (+)</td>
<td>12.5% (+)</td>
<td>16.5% (+)</td>
<td>19.6% (+)</td>
<td>13.2% (+)</td>
<td>16.2% (+)</td>
</tr>
<tr>
<td>Total - All Occupations</td>
<td>6.0% (+)</td>
<td>7.0% (+)</td>
<td>0.0% (+)</td>
<td>3.0% (+)</td>
<td>7.0% (+)</td>
<td>0.0% (+)</td>
<td>5.0% (+)</td>
</tr>
</tbody>
</table>
## Zero Unemployment

### Southwest Minnesota

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>Current</th>
<th>5-Year History</th>
<th>5-Year Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Empl</td>
<td>Mean Ann Wages</td>
<td>LQ</td>
</tr>
<tr>
<td>21-2021</td>
<td>Directors, Religious Activities and Education</td>
<td>388</td>
<td>$57,800</td>
<td>1.16</td>
</tr>
<tr>
<td>29-1229</td>
<td>Physicians, All Other</td>
<td>328</td>
<td>$266,400</td>
<td>0.58</td>
</tr>
<tr>
<td>33-1012</td>
<td>First-Line Supervisors of Police and Detectives</td>
<td>250</td>
<td>$87,900</td>
<td>1.00</td>
</tr>
<tr>
<td>49-9043</td>
<td>Maintenance Workers, Machinery</td>
<td>235</td>
<td>$50,600</td>
<td>1.92</td>
</tr>
<tr>
<td>29-1021</td>
<td>Dentists, General</td>
<td>206</td>
<td>$165,900</td>
<td>0.76</td>
</tr>
<tr>
<td>29-1131</td>
<td>Veterinarians</td>
<td>189</td>
<td>$104,800</td>
<td>1.02</td>
</tr>
<tr>
<td>51-5111</td>
<td>Press and Technicians and Other Workers</td>
<td>184</td>
<td>$44,600</td>
<td>3.34</td>
</tr>
<tr>
<td>29-1215</td>
<td>Family Medicine Physicians</td>
<td>192</td>
<td>$267,200</td>
<td>0.79</td>
</tr>
<tr>
<td>21-1062</td>
<td>Probation Officers and Correctional Treatment Specialists</td>
<td>180</td>
<td>$72,200</td>
<td>0.99</td>
</tr>
<tr>
<td>33-3021</td>
<td>Detectives and Criminal Investigators</td>
<td>183</td>
<td>$70,500</td>
<td>0.75</td>
</tr>
<tr>
<td>29-1216</td>
<td>General Intern. Medicine Physicians</td>
<td>140</td>
<td>$259,600</td>
<td>1.10</td>
</tr>
<tr>
<td>28-1151</td>
<td>Nurse Anesthetists</td>
<td>144</td>
<td>$217,500</td>
<td>1.55</td>
</tr>
<tr>
<td>00-0000</td>
<td>Total - All Occupations</td>
<td>322,488</td>
<td>$51,300</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Chmura Economics JobsEQ, 2022Q2 dataset.
# Zero Unemployment

**Southeast Minnesota**

## Occupations with No Unemployed Workforce and Employing over 75 Workers, Southeast Minnesota 2022Q2

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>Empl</th>
<th>Mean Ann Wages(^1)</th>
<th>LQ</th>
<th>Unempl</th>
<th>Unempl Rate</th>
<th>30-Day Online Job Ads(^3)</th>
<th>Empl Change</th>
<th>Ann %</th>
<th>Total Demand</th>
<th>Exits</th>
<th>Transfers</th>
<th>Empl Growth</th>
<th>Ann % Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>29-1221</td>
<td>Pediatricians, General</td>
<td>259</td>
<td>$222,300</td>
<td>6.39</td>
<td>0</td>
<td>0.0%</td>
<td>7</td>
<td>5</td>
<td>0.4%</td>
<td>29</td>
<td>20</td>
<td>14</td>
<td>-5</td>
<td>-0.4%</td>
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<tr>
<td>29-1211</td>
<td>Anesthesiologists</td>
<td>242</td>
<td>$349,700</td>
<td>6.36</td>
<td>0</td>
<td>0.0%</td>
<td>4</td>
<td>-24</td>
<td>-1.8%</td>
<td>34</td>
<td>19</td>
<td>13</td>
<td>1</td>
<td>0.1%</td>
</tr>
<tr>
<td>21-2021</td>
<td>Directors, Religious Activities and Education</td>
<td>172</td>
<td>$593,500</td>
<td>0.95</td>
<td>0</td>
<td>0.0%</td>
<td>n/a</td>
<td>3</td>
<td>0.3%</td>
<td>104</td>
<td>35</td>
<td>64</td>
<td>4</td>
<td>0.5%</td>
</tr>
<tr>
<td>29-1213</td>
<td>Dermatologists</td>
<td>168</td>
<td>$355,900</td>
<td>14.32</td>
<td>0</td>
<td>0.0%</td>
<td>10</td>
<td>89</td>
<td>16.2%</td>
<td>28</td>
<td>14</td>
<td>9</td>
<td>5</td>
<td>0.6%</td>
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<tr>
<td>29-1242</td>
<td>Orthopedic Surgeons, Except Pediatric</td>
<td>164</td>
<td>$323,400</td>
<td>8.35</td>
<td>0</td>
<td>0.0%</td>
<td>4</td>
<td>87</td>
<td>16.3%</td>
<td>18</td>
<td>13</td>
<td>9</td>
<td>-3</td>
<td>-0.4%</td>
</tr>
<tr>
<td>29-2031</td>
<td>Cardiovascular Technologists and Technicians</td>
<td>163</td>
<td>$69,100</td>
<td>2.55</td>
<td>0</td>
<td>0.0%</td>
<td>62</td>
<td>11</td>
<td>1.4%</td>
<td>63</td>
<td>23</td>
<td>36</td>
<td>5</td>
<td>0.6%</td>
</tr>
<tr>
<td>29-1218</td>
<td>Obstetricians and Gynecologists</td>
<td>161</td>
<td>$313,000</td>
<td>5.38</td>
<td>0</td>
<td>0.0%</td>
<td>12</td>
<td>-2</td>
<td>-0.2%</td>
<td>18</td>
<td>13</td>
<td>9</td>
<td>-3</td>
<td>-0.4%</td>
</tr>
<tr>
<td>29-1021</td>
<td>Dentists, General</td>
<td>151</td>
<td>$177,300</td>
<td>1.03</td>
<td>0</td>
<td>0.0%</td>
<td>23</td>
<td>4</td>
<td>0.5%</td>
<td>25</td>
<td>14</td>
<td>6</td>
<td>5</td>
<td>0.7%</td>
</tr>
<tr>
<td>29-1212</td>
<td>Cardiologists</td>
<td>150</td>
<td>$373,800</td>
<td>6.69</td>
<td>0</td>
<td>0.0%</td>
<td>7</td>
<td>80</td>
<td>16.3%</td>
<td>25</td>
<td>12</td>
<td>8</td>
<td>5</td>
<td>0.6%</td>
</tr>
<tr>
<td>29-1214</td>
<td>Emergency Medicine Physicians</td>
<td>150</td>
<td>$305,600</td>
<td>3.44</td>
<td>0</td>
<td>0.0%</td>
<td>8</td>
<td>79</td>
<td>16.3%</td>
<td>25</td>
<td>12</td>
<td>8</td>
<td>4</td>
<td>0.6%</td>
</tr>
<tr>
<td>29-2035</td>
<td>Magnetic Resonance Imaging Technologists</td>
<td>138</td>
<td>$83,300</td>
<td>3.03</td>
<td>0</td>
<td>0.0%</td>
<td>8</td>
<td>23</td>
<td>3.8%</td>
<td>55</td>
<td>19</td>
<td>31</td>
<td>5</td>
<td>0.7%</td>
</tr>
<tr>
<td>29-1241</td>
<td>Ophthalmologists, Except Pediatric</td>
<td>108</td>
<td>$227,700</td>
<td>7.65</td>
<td>0</td>
<td>0.0%</td>
<td>5</td>
<td>57</td>
<td>16.3%</td>
<td>18</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>0.6%</td>
</tr>
<tr>
<td>19-3033</td>
<td>Clinical and Counseling Psychologists</td>
<td>106</td>
<td>$99,700</td>
<td>1.49</td>
<td>0</td>
<td>0.0%</td>
<td>10</td>
<td>53</td>
<td>14.9%</td>
<td>40</td>
<td>14</td>
<td>21</td>
<td>4</td>
<td>0.8%</td>
</tr>
<tr>
<td>29-1223</td>
<td>Psychiatrists</td>
<td>103</td>
<td>$278,800</td>
<td>3.44</td>
<td>0</td>
<td>0.0%</td>
<td>11</td>
<td>1</td>
<td>0.2%</td>
<td>22</td>
<td>9</td>
<td>6</td>
<td>8</td>
<td>1.5%</td>
</tr>
<tr>
<td>00-0000</td>
<td>Total - All Occupations</td>
<td>174,848</td>
<td>$51,100</td>
<td>1.00</td>
<td>3,848</td>
<td>2.2%</td>
<td>10,605</td>
<td>1,003</td>
<td>0.1%</td>
<td>98,086</td>
<td>37,904</td>
<td>55,936</td>
<td>4,246</td>
<td>0.5%</td>
</tr>
</tbody>
</table>
Career Field Analysis

**Origin Occupations**
- **Low wage** (<$42,000/year)
- **Low skill** (no credential)
- **Low demand** (over 5% unemployment, low growth, low replacement demand, and/or low job postings)

**Gateway Occupations**
- **Mid-wage** ($42,000 – regional average)
- **Low-middle skills** (HS diploma, some OJT)
- **Sufficient demand** (3-5% unemployment and/or high volumes of current opportunities)

**Target Occupations**
- **High wage** (above regional average)
- **High-skill** (require some credential)
- **High-demand** (2/4 indicators: under 3% unempl, higher than average 5-year growth, total 5-year demand >50% of current empl, high job posting volume)
  *Often also high occupation gap and award gap*
Career Field Analysis

Occupation Characteristics for Consideration

• High-Wage: Paying above the area mean wage
• High-Skill: Requiring some form of credential
• High-Demand: 2/4 of the following requirements met:
  • Low unemployment
  • High volume of job postings in the past 3 months
  • Forecasted growth outpaces average regional forecasted growth
  • Forecasted total demand equal to or greater than 50% of total current employment
• Occupation Gaps
• Award Gaps
## Gateway Occupations of Focus

<table>
<thead>
<tr>
<th></th>
<th>Overall Unemployment Rate 2022Q2</th>
<th>Overall Mean Wage</th>
<th>Gateway Occupation Unemployment Rate 2022Q2</th>
<th>Top 4-Digit Sub-Industries of High Local Concentration (LQ) and High Demand (replacement or growth)</th>
<th>Top Gateway Occupations with Occupation Gaps and/or Award Gaps in Order of Total Employment, including Unemployment Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Southwest</strong></td>
<td>2.5%</td>
<td>$51,300</td>
<td>2.2%</td>
<td>• Hog &amp; Pig Farming (45.20) • Grain &amp; Oilseed Milling (19.73) • Animal Slaughtering &amp; Processing (8.88) • Residential Intellectual &amp; Developmental Disability, Mental Health, &amp; Substance Abuse Facilities (2.59)</td>
<td>• Heavy &amp; Tractor Trailer Truck Drivers (2.1%) • Maintenance &amp; Repair Workers, General (1.3%) • Supervisors of Retail Sales Workers (1.2%) • Bookkeeping, Accounting, &amp; Auditing Clerks (1.7%) • Light Truck Drivers (2.0%)</td>
</tr>
<tr>
<td><strong>Southeast</strong></td>
<td>2.2%</td>
<td>$61,100</td>
<td>2.0%</td>
<td>• Computer &amp; Peripheral Equipment Manufacturing (13.45) • Offices of Physicians (8.14) • Animal Slaughtering &amp; Processing (5.85) • General Medical &amp; Surgical Hospitals (2.01)</td>
<td>• Medical Assistants (2.6%) • Medical Secretaries &amp; Administrative Assistants (1.1%) • Heavy &amp; Tractor Trailer Truck Drivers (1.9%) • LPNs (1.0%) • Elementary School Teachers (1.2%)</td>
</tr>
<tr>
<td><strong>Minnesota Statewide</strong></td>
<td>2.5%</td>
<td>$60,300</td>
<td>2.3%</td>
<td>• Hog &amp; Pig Farming (6.05) • Metal Ore Mining (5.13) • Other Residential Care Facilities (3.28) • Farm Product Raw Material Merchant Wholesalers (3.18)</td>
<td>• Heavy Tractor Trailer &amp; Truck Drivers (OG, AG; 2.2%) • Bookkeeping, Accounting, &amp; Auditing Clerks (AG; 1.8%) • Maintenance &amp; Repair Workers (OG; 1.4%) • Carpenters (OG; 3.2%) • Light Truck Drivers (AG; 2.2%)</td>
</tr>
</tbody>
</table>

Chmura Economics JobsEQ, 2022Q2 dataset.
Polling Question – Choose A Field!

Which ONE career field would you like to learn more about in further detail today?

The top 3 selections by the group will be highlighted now through the end of today’s presentation.

(all fields are detailed in the full report)

1. Agriculture, Food, and Natural Resources
2. Arts, Communications, and Information Systems
3. Business, Management, and Administration
4. Engineering, Manufacturing, and Technology
5. Health Science Technology
6. Human Services
## Health Science Technology

### Summary Statistics

#### Southwest

- **2022Q2 Employment**: 27,506 (8.5% of SW employment)
- **Average Wage**: $69,600 (compared to $51,300 across all occupations)
- **Location Quotient**: 0.94
- **2022Q2 Unemployment**: 380 (1.3% rate)
- **30-Day Job Ads**: 3,624
- **5-Year Ann Avg Employment Change**: -1.2%
- **Forecast 5-Year Ann Employment Change**: 0.4%
- **Total 5-Year Demand**: 11,599

#### Southeast

- **2022Q2 Employment**: 36,200 (20.7% of SE employment)
- **Average Wage**: $97,200 (compared to $61,100 across all occupations)
- **Location Quotient**: 2.28
- **2022Q2 Unemployment**: 389 (1.1% rate)
- **30-Day Job Ads**: 3,083*
- **5-Year Ann Avg Employment Change**: 1.9%
- **Forecast 5-Year Ann Employment Change**: 1.0%
- **Total 5-Year Demand**: 15,521

Chmura Economics JobsEQ, 2022Q2 dataset. *Indicates live postings during the month of October, compared to 182,561 across all occupations Statewide.
## Health Science Technology

### Top Occupation & Award Gaps

#### Southwest

<table>
<thead>
<tr>
<th>Top Occupation Gaps</th>
<th>Top Award Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Registered Nurses</td>
<td>• Medical &amp; Health Services Managers</td>
</tr>
<tr>
<td>• Medical &amp; Health Services Managers</td>
<td>• Licensed Practical &amp; Licensed Vocational Nurses</td>
</tr>
<tr>
<td>• Nurse Practitioners</td>
<td>• Medical Assistants</td>
</tr>
<tr>
<td>• Licensed Practical &amp; Licensed Vocational Nurses</td>
<td></td>
</tr>
<tr>
<td>• Medical Assistants</td>
<td>• Physical Therapists</td>
</tr>
<tr>
<td>• Medical Assistants</td>
<td>• Medical Secretaries</td>
</tr>
</tbody>
</table>

#### Southeast

<table>
<thead>
<tr>
<th>Top Occupation Gaps</th>
<th>Top Award Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Registered Nurses</td>
<td>• Medical Assistants</td>
</tr>
<tr>
<td>• Nurse Practitioners</td>
<td>• Nurse Practitioners</td>
</tr>
<tr>
<td>• Medical &amp; Health Services Managers</td>
<td>• Physician Assistants</td>
</tr>
<tr>
<td>• Medical Assistants</td>
<td>• Registered Nurses</td>
</tr>
<tr>
<td>• Physician Assistants</td>
<td>• Nursing Assistants</td>
</tr>
</tbody>
</table>

---

Chmura Economics JobsEQ, 2022Q2 dataset.
### Health Science Technology

#### Origin Occupations

- **Likely**
  - Nursing Assistants (HS, HD, OG)
  - Home Health Aides (HD, AG)
  - Medical Secretaries (HD, OG, AG)
  - Medical Assistants (HS, HD, OG, AG)
  - Pharmacy Technicians (OG, AG)

- **Aligned**
  - Personal Care Aides
  - Childcare Workers
  - Secretaries
  - Customer Service Reps
  - Cooks

#### Gateway Occupations

- Licensed Practical Nurses (HS, HD, OG, AG)
- Dental Assistants (HS, HD, OG)
- Medical Dosimetrists (HS, OG)
- Ophthalmic Medical Technicians (HS, HD, OG, AG)
- Occupational Therapy Assistants (HS, HD, AG)

#### Target Occupations (all HW, HD, HS, OG)

- Registered Nurses
- Medical & Health Services Managers (AG)
- Physical Therapists
- Speech-Language Pathologists (AG)
- Nurse Practitioners (AG)
### Origin Occupations

- **Likely**
  - Nursing Assistants (HS, HD, OG, AG)
  - Home Health Aides (HD)
  - Pharmacy Technicians (OG)
  - Healthcare Support Workers, All Other (HD, AG)
  - Phlebotomists (HS, HD, OG)

- **Aligned**
  - Personal Care Aides
  - Childcare Workers
  - Secretaries
  - Customer Service Reps
  - Cooks

### Gateway Occupations

- Medical Assistants (HS, HD, OG, AG)
- Medical Secretaries & Administrative Assistants (HD, OG, AG)
- Licensed Practical & Licensed Vocational Nurses (HS, OG)
- Medical Records Specialists (HS, OG)
- Medical & Clinical Laboratory Technologists (HS, OG)

### Target Occupations (all HW, HD, HS)

- Registered Nurses (OG, AG)
- Nurse Practitioners (OG, AG)
- Medical & Health Services Managers (OG, AG)
- Physicians, All Other (OG, AG)
- Physician Assistants (OG, AG)
### Health Science Technology

#### High Location Quotient

<table>
<thead>
<tr>
<th>Region</th>
<th>Southwest</th>
<th>Southeast</th>
</tr>
</thead>
</table>
| **Avg. Wage**| Region: $51,300  
                Field: $69,600 | Region: $61,100  
                Field: $97,200 |
| **Unemp. Rate**| Region: 2.5%  
                Field: 1.3% | Region: 2.2%  
                Field: 1.1% |
| **Origin Occupations**| Nursing Assistants,  
                         Home Health Aides,  
                         Medical Secretaries,  
                         Medical Assistants,  
                         Pharmacy Technicians | Nursing Assistants,  
                                           Home Health Aides,  
                                           Pharmacy Technicians,  
                                           Phlebotomists,  
                                           Opticians, Dispensing |
| **Gateway Occupations**| LPNs,  
                        Dental Assistants,  
                        Medical Records Specialists,  
                        Ophthalmic Medical Technicians,  
                        Occupational Therapy Assistants | Medical Assistants,  
                                           Medical Secretaries & Administrative Assistants,  
                                           LPNs,  
                                           Medical Dosimetrists,  
                                           Dental Assistants |
| **Target Occupations**| Registered Nurses,  
                         Medical & Health Services Managers,  
                         Dental Hygienists,  
                         Physical Therapists,  
                         Nurse Practitioners | Registered Nurses,  
                                          Nurse Practitioners,  
                                          Medical & Health Services Managers,  
                                          Physician Assistants,  
                                          Diagnostic Medical Sonographers |

#### Southwest
- Recreational Therapists
- Psychiatric Aides
- Dermatologists
- Nurse Anesthetists
- Chiropractors

#### Southeast
- Dermatologists
- Nurse Anesthetists
- Pediatric Surgeons
- Orthopedic Surgeons
- Ophthalmologists
# Human Services

## Summary Statistics

### Southwest
- **2022Q2 Employment:** 48,372 (15.0% of SW employment)
- **Average Wage:** $51,100 (compared to $51,300 across all occupations)
- **Location Quotient:** 0.96
- **2022Q2 Unemployment:** 862 (1.8% rate)
- **30-Day Job Ads:** 1,628*
- **5-Year Ann Avg Employment Change:** -0.2%
- **Forecast 5-Year Ann Employment Change:** 0.6%
- **Total 5-Year Demand:** 26,582

### Southeast
- **2022Q2 Employment:** 25,829 (14.8% of SE employment)
- **Average Wage:** $51,000 (compared to $61,100 across all occupations)
- **Location Quotient:** 0.95
- **2022Q2 Unemployment:** 464 (1.8% rate)
- **30-Day Job Ads:** 1,138*
- **5-Year Ann Avg Employment Change:** 0.6%
- **Forecast 5-Year Ann Employment Change:** 1.0%
- **Total 5-Year Demand:** 14,974

---

*Indicates live postings during the month of October, compared to 182,561 across all occupations statewide.
### Southwest

**Top Occupation Gaps**
- Elementary School Teachers
- Substance, Behavioral, Mental Health Counselors
- Secondary School Teachers
- Police & Sheriff’s Patrol Officers
- Preschool Teachers

**Top Award Gaps**
- Childcare Workers
- Lawyers
- Hairdressers, Hairstylists, & Cosmetologists
- Social & Human Service Assistants
- Firefighters

### Southeast

**Top Occupation Gaps**
- Emergency Medical Technicians
- Elementary School Teachers
- Secondary School Teachers
- Preschool Teachers
- Middle School Teachers

**Top Award Gaps**
- Emergency Medical Technicians
- Childcare Workers
- Paramedics
- Lawyers
- Clergy
### Human Services

#### Southwest

<table>
<thead>
<tr>
<th>Gateway Occupations (all HD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social &amp; Human Service Assistants (AG)</td>
</tr>
<tr>
<td>Court, Municipal, and License Clerks (OG)</td>
</tr>
<tr>
<td>Clergy (HS, OG)</td>
</tr>
<tr>
<td>Substitute Teachers, Short-Term (HS, OG)</td>
</tr>
<tr>
<td>Self-Enrichment Teachers (OG)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Origin Occupations</th>
<th>Likely</th>
<th>Aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Care Aides (HD, AG)</td>
<td></td>
<td>Home Health Aides</td>
</tr>
<tr>
<td>Teaching Assistants (HS)</td>
<td></td>
<td>Medical Assistants</td>
</tr>
<tr>
<td>Childcare Workers (AG)</td>
<td></td>
<td>Waiters and Waitresses</td>
</tr>
<tr>
<td>Preschool Teachers (HS, HD, OG)</td>
<td></td>
<td>Cashiers</td>
</tr>
<tr>
<td>Cosmetologists (HS, HD, OG, AG)</td>
<td></td>
<td>Cooks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target Occupations (all HW, HD, HS, OG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child, Family, &amp; School Social Workers (AG)</td>
</tr>
<tr>
<td>Lawyers</td>
</tr>
<tr>
<td>Substance Abuse, Behavioral Disorder, &amp; Mental (AG)</td>
</tr>
<tr>
<td>Social &amp; Community Service Managers (AG)</td>
</tr>
<tr>
<td>Education Administrators</td>
</tr>
</tbody>
</table>
Origin Occupations

Likely
- Personal Care Aides (HD, AG)
- Teaching Assistants (HS, HD)
- Childcare Workers (AG)
- Emergency Medical Technicians (HS, HD, OG, AG)
- Preschool Teachers (HS, HD, OG)

Aligned
- Home Health Aides
- Medical Assistants
- Waiters and Waitresses
- Cashiers
- Cooks

Gateway Occupations

- Elementary School Teachers (HS, OG)
- Middle School Teachers (HS, OG)
- Social & Human Service Assistants (HD)
- Substance, Behavioral, & Mental Health Counselors (HS, HD, OG)
- Child, Family, & School Social Workers (HS, HD, OG)

Target Occupations (all HW, HD, HS, OG)
- Lawyers (AG)
- Healthcare Social Workers
- Social & Community Service Managers
- K-12 Education Administrators
- Educational, Guidance, & Career Counselors & Advisors

Human Services
Southeast
# Human Services

<table>
<thead>
<tr>
<th>High Location Quotient</th>
<th>Southwest</th>
<th>Southeast</th>
</tr>
</thead>
</table>
| Avg. Wage              | Region: $51,300  
Field: $51,100 | Region: $61,100  
Field: $51,000 |
| Unempl. Rate           | Region: 2.5%  
Field: 1.8% | Region: 2.2%  
Field: 1.8% |
| Origin Occupations     | Personal Care Aides  
Teaching Assistants  
Childcare Workers  
Preschool Teachers  
Hairdressers, Hairstylists, & Cosmetologists | Personal Care Aides  
Teaching Assistants  
Childcare Workers  
Emergency Medical Technicians  
Preschool Teachers |
| Gateway Occupations    | Social & Human Service Assistants  
Court, Municipal, & License Clerks  
Clergy  
Substitute Teachers  
Self-Enrichment Teachers | Elementary School Teachers  
Middle School Teachers  
Social & Human Service Assistants  
Substance Abuse & Mental Health Counselors  
Child, Family, & School Social Workers |
| Target Occupations     | Child, Family, & School Social Workers  
Lawyers  
Substance Abuse & Mental Health Counselors  
Social & Community Service Managers  
Education Administrators | Lawyers  
Healthcare Social Workers  
Social & Community Service Managers  
Education Administrators  
Counselors & Advisors |

**Southwest**
- Preschool Special Ed Teachers
- Court, Municipal, & License Clerks
- Rehabilitation Counselors
- Morticians, Undertakers, & Funeral Arrangers
- Gambling Surveillance Officers & Gambling Investigators

**Southeast**
- Emergency Medical Technicians
- Preschool Special Education Teachers
- Court, Municipal, & License Clerks
- Health Education Specialists
- Residential Advisors

Chmura Economics JobsEQ, 2022Q2 dataset.
<table>
<thead>
<tr>
<th>Summary Statistics</th>
<th>Southwest</th>
<th>Southeast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2022Q2 Employment</strong>:</td>
<td>10,290 (3.2% of SW employment)</td>
<td>5,680 (3.2% of SE employment)</td>
</tr>
<tr>
<td><strong>Average Wage</strong>:</td>
<td>$66,700 (compared to $51,300 across all occupations)</td>
<td>$76,800 (compared to $61,100 across all occupations)</td>
</tr>
<tr>
<td><strong>Location Quotient</strong>:</td>
<td>0.67</td>
<td>0.68</td>
</tr>
<tr>
<td><strong>2022Q2 Unemployment</strong>:</td>
<td>205 (2.1% rate)</td>
<td>92 (1.6% rate)</td>
</tr>
<tr>
<td><strong>30-Day Job Ads</strong>:</td>
<td>593*</td>
<td>520*</td>
</tr>
<tr>
<td><strong>5-Year Ann Avg Employment Change</strong>:</td>
<td>-0.6%</td>
<td>1.1%</td>
</tr>
<tr>
<td><strong>Forecast 5-Year Ann Employment Change</strong>:</td>
<td>-0.3%</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>Total 5-Year Demand</strong>:</td>
<td>4,184</td>
<td>2,423</td>
</tr>
</tbody>
</table>

Chmura Economics JobsEQ, 2022Q2 dataset. *Indicates live postings during the month of October, compared to 182,561 across all occupations statewide.
### Arts, Communications, & Information Systems

**Top Occupation & Award Gaps**

#### Southwest

**Top Occupation Gaps**
- Software Developers
- Information Security Analysts
- Musicians & Singers
- Photographers
- Audio & Video Technicians

**Top Award Gaps**
- Graphic Designers
- Computer User Support Specialists
- Art Directors
- Commercial & Industrial Designers
- Printing Press Operators

#### Southeast

**Top Occupation Gaps**
- Software Developers
- Producers & Directors
- Computer Occupations, All Other
- Musicians & Singers
- Software Quality Assurance Analysts & Testers

**Top Award Gaps**
- Computer User Support Specialists
- Musicians & Singers
- Music Directors & Composers
- Sound Engineering Technicians
- Audio & Video Technicians

---

Chmura Economics JobsEQ, 2022Q2 dataset.
Arts, Communications, & Information Systems

Southwest

**Target Occupations** (all HW, HD, HS, OG)
- Software Developers
- Computer Network Support Specialists
- Writers & Authors
- Software Quality Assurance Analysts
- Music Composers

**Gateway Occupations**
- Printing Press Operators (AG)
- Graphic Designers (HS, AG)
- Photographers (HD, OG)
- Prepress Technicians & Workers (HS)
- Telecommunications Line Installers & Repairers

**Origin Occupations**

*Likely*
- Print Binding & Finishing Workers
- Floral Designers
- Broadcast Announcers & Radio Disc Jockeys (HS)
- Reporters & Journalists (HS)
- Broadcast Technicians (HS, HD, AG)

*Aligned*
- Library Technicians
- Recreation Attendants
- Hosts and Hostesses
- Customer Service Reps
- Photo Process Machine Ops
## Arts, Communications, & Information Systems

### Target Occupations
(all HW, HD, HS, OG)
- Software Developers
- Computer Network Support Specialists
- Software Quality Assurance Analysts & Testers
- Database Administrators
- Information Security Analysts

### Gateway Occupations
- Computer User Support Specialists (HS, AG)
- Telecommunications Line Installers & Repairers (HS, HD)
- Graphic Designers (HS)
- Printing Press Operators (AG)
- Writers & Authors (HS, HD, OG)

### Origin Occupations

**Likely**
- Floral Designers (HD)
- Print Binding & Finishing Workers
- Broadcast Announcers & Radio Disc Jockeys (HS, HD)
- Broadcast Technicians (HS, HD, AG)

**Aligned**
- Library Technicians
- Recreation Attendants
- Hosts & Hostesses
- Customer Service Reps
- Photo Process Machine Ops
## Arts, Communications, & Information Systems

<table>
<thead>
<tr>
<th></th>
<th>Southwest</th>
<th>Southeast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Avg. Wage</strong></td>
<td>Region: $51,300</td>
<td>Region: $61,100</td>
</tr>
<tr>
<td></td>
<td>Field: $65,700</td>
<td>Field: $76,800</td>
</tr>
<tr>
<td><strong>Unempl Rate</strong></td>
<td>Region: 2.5%</td>
<td>Region: 2.2%</td>
</tr>
<tr>
<td></td>
<td>Field: 2.1%</td>
<td>Field: 1.6%</td>
</tr>
<tr>
<td><strong>Origin Occupations</strong></td>
<td>Print Binding &amp; Finishing Workers</td>
<td>Floral Designers</td>
</tr>
<tr>
<td></td>
<td>Floral Designers</td>
<td>Print Binding &amp; Finishing Workers</td>
</tr>
<tr>
<td></td>
<td>Broadcast Announcers</td>
<td>Broadcast Announcers</td>
</tr>
<tr>
<td></td>
<td>News Analysts, Reporters, &amp; Journalists</td>
<td>Broadcast Technicians</td>
</tr>
<tr>
<td></td>
<td>Broadcast Technicians</td>
<td>Fashion Designers</td>
</tr>
<tr>
<td><strong>Gateway Occupations</strong></td>
<td>Printing Press Operators</td>
<td>Computer User Support Specialists</td>
</tr>
<tr>
<td></td>
<td>Graphic Designers</td>
<td>Telecommunications Equipment Installers</td>
</tr>
<tr>
<td></td>
<td>Photographers</td>
<td>Graphic Designers</td>
</tr>
<tr>
<td></td>
<td>Prepress Technicians</td>
<td>Printers</td>
</tr>
<tr>
<td></td>
<td>Telecommunications Line Installers &amp; Repairers</td>
<td>Writers &amp; Authors</td>
</tr>
<tr>
<td><strong>Target Occupations</strong></td>
<td>Software Developers</td>
<td>Software Developers</td>
</tr>
<tr>
<td></td>
<td>Computer Network Support Specialists</td>
<td>Computer Network Support Specialists</td>
</tr>
<tr>
<td></td>
<td>Writers &amp; Authors</td>
<td>Software Quality Assurance Analysts &amp; Testers</td>
</tr>
<tr>
<td></td>
<td>Software Quality Assurance Analysts &amp; Testers</td>
<td>Art Directors</td>
</tr>
<tr>
<td></td>
<td>Art Directors</td>
<td>Special Effects Artists &amp; Animators</td>
</tr>
</tbody>
</table>

### High Location Quotient
- **Southwest**
  - Print Binding & Finishing Workers
  - Printing Press Operators
  - Prepress Technicians
  - Broadcast Announcers
  - Commercial & Industrial Designers

- **Southeast**
  - Floral Designers
  - Print Binding & Finishing Workers
  - Broadcast Announcers
  - Broadcast Technicians
  - Fashion Designers

### High Location Quotient
- **Southeast**
  - Sound Engineering Technicians
  - Computer Network Support Specialists
## Southwest

- **2022Q2 Employment:** 123,762 (38.4% of SW employment)
- **Average Wage:** $47,600 (compared to $51,300 across all occupations)
- **Location Quotient:** 0.87
- **2022Q2 Unemployment:** 3,802 (2.9% rate)
- **30-Day Job Ads:** 6,339*
- **5-Year Ann Avg Employment Change:** -1.2%
- **Forecast 5-Year Ann Employment Change:** -0.2%
- **Total 5-Year Demand:** 77,096

## Southeast

- **2022Q2 Employment:** 65,844 (37.7% of SW employment)
- **Average Wage:** $49,300 (compared to $61,100 across all occupations)
- **Location Quotient:** 0.85
- **2022Q2 Unemployment:** 1,888 (2.8% rate)
- **30-Day Job Ads:** 3,964*
- **5-Year Ann Avg Employment Change:** -0.5%
- **Forecast 5-Year Ann Employment Change:** 0.2%
- **Total 5-Year Demand:** 43,136

Chmura Economics JobsEQ, 2022Q2 dataset. *Indicates live postings during the month of October, compared to 182,561 across all occupations.
### Southwest

#### Top Occupation Gaps
- General & Operations Managers
- Business Operations Specialists, All Other
- Management Analysts
- Managers, All Other
- Human Resources Specialists

#### Top Award Gaps
- General & Operations Managers
- Human Resources Specialists
- Bookkeeping, Accounting, & Auditing Clerks
- Business Operations Specialists, All Other
- Project Management Specialists

### Southeast

#### Top Occupation Gaps
- Restaurant Cooks
- General & Operations Managers
- Financial Managers
- Market Research Analysts & Specialists
- Accountants & Auditors

#### Top Award Gaps
- Food Service Managers
- Bookkeeping, Accounting, & Auditing Clerks
- Supervisors of Food Preparation Workers
- Restaurant Cooks
- Operations Research Analysts
## Business, Management, & Administration

### Southwest

#### Origin Occupations
- Cashiers
- Retail Salespersons (HD)
- Fast Food & Counter Workers (HD)
- Office Clerks, General (AG)
- Janitors & Cleaners

#### Likely

<table>
<thead>
<tr>
<th>Origin Occupations</th>
<th>Likely</th>
<th>Aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cashiers</td>
<td>Personal Care Aides</td>
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<td>Retail Salespersons (HD)</td>
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<td>Fast Food &amp; Counter Workers (HD)</td>
<td>Childcare Workers</td>
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<td></td>
<td>Office Clerks, General (AG)</td>
<td>Library Technicians</td>
</tr>
<tr>
<td></td>
<td>Janitors &amp; Cleaners</td>
<td></td>
</tr>
</tbody>
</table>

#### Gateway Occupations
- Supervisors of Retail Sales Workers (HD, AG)
- Accounting & Auditing Clerks (HS, AG)
- Billing & Posting Clerks
- Real Estate Agents (OG, AG)
- Supervisors of Housekeepers & Janitorial Workers (HD, OG)

#### Target Occupations (all HW, HD, HS, OG)
- General & Operations Managers (AG)
- Business Operations Specialists (AG)
- Human Resource Specialists (AG)
- Project Management Specialists (AG)
- Market Research Analysts
Business, Management, & Administration

Origin Occupations

**Likely**
- Cashiers
- Retail Salespersons (HD)
- Fast Food & Counter Workers (HD)
- Office Clerks, General (HD)
- Customer Service Representatives (HD, AG)

**Aligned**
- Personal Care Aides
- Eligibility Interviewers
- Childcare Workers
- Library Technicians

Gateway Occupations

- Secretaries & Administrative Assistants
- First-Line Supervisors of Retail Sales Workers (HD, AG)
- Bookkeeping, Accounting, & Auditing Clerks (HS, HD, AG)
- Billing and Posting Clerks (HD)
- Executive Secretaries & Executive Administrative Assistants

Target Occupations (all HW, HD, HS, OG)

- General & Operations Managers
- Human Resources Specialists
- Market Research Analysts & Marketing Specialists
- Project Management Specialists
- Financial Managers
## Business, Management, & Admin

<table>
<thead>
<tr>
<th>Occupation Type</th>
<th>Southwest</th>
<th>Southeast</th>
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<tr>
<td><strong>High Location Quotient</strong></td>
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<tr>
<td><strong>Southwest</strong></td>
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<tr>
<td>Cashiers</td>
<td>Cashiers</td>
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<tr>
<td>Retail Salespersons</td>
<td>Retail Salespersons</td>
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</tr>
<tr>
<td>Fast Food &amp; Counter Workers</td>
<td>Fast Food &amp; Counter Workers</td>
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<tr>
<td>Office Clerks, General</td>
<td>Office Clerks, General</td>
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<tr>
<td>Stockers &amp; Order Fillers</td>
<td>Customer Service Reps</td>
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<tr>
<td>Supervisors of Retail Workers</td>
<td>Secretaries &amp; Administrative Assistants</td>
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<td>Bookkeeping, Accounting, &amp; Auditing Clerks</td>
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<td>Billing &amp; Posting Clerks</td>
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<td>Real Estate Sales Agents</td>
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<td>Supervisors of Housekeeping &amp; Janitorial Workers</td>
<td>Executive Secretaries &amp; Executive Administrative Assistants</td>
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<td>Business Operations Specialists</td>
<td>Human Resource Specialists</td>
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<td>Human Resources Specialists</td>
<td>Market Research Analysts</td>
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<td>Project Mgmt Specialists</td>
<td>Project Management Specialists</td>
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<td>Market Research Analysts</td>
<td>Financial Managers</td>
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<td><strong>Unemployment Rate</strong></td>
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<td>Region: 2.2%</td>
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<tr>
<td>Field: 2.9%</td>
<td>Field: 2.8%</td>
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</tr>
<tr>
<td><strong>Avg Wage</strong></td>
<td>Region: $51,300</td>
<td>Region: $61,100</td>
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<tr>
<td>Field: $47,600</td>
<td>Field: $49,300</td>
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</tr>
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</table>

Chmura Economics JobsEQ, 2022Q2 dataset.

Southwest
- Telephone Operators
- Food Servers, Nonrestaurant
- Gambling & Sports Book Writers & Runners
- Billing & Posting Clerks
- Receptionists & Information Clerks
## Engineering, Manufacturing, & Technology

### Summary Statistics

<table>
<thead>
<tr>
<th></th>
<th>Southwest</th>
<th>Southeast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2022Q2 Employment:</strong></td>
<td>93,376 (29.0% of SW employment)</td>
<td>36,179 (20.7% of SE employment)</td>
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<tr>
<td><strong>Average Wage:</strong></td>
<td>$48,500 (compared to $51,300 across all occupations)</td>
<td>$51,500 (compared to $61,100 across all occupations)</td>
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<tr>
<td><strong>Location Quotient:</strong></td>
<td>1.18</td>
<td>0.84</td>
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<tr>
<td><strong>2022Q2 Unemployment:</strong></td>
<td>2,793 (2.7% rate)</td>
<td>932 (2.5% rate)</td>
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<tr>
<td><strong>30-Day Job Ads:</strong></td>
<td>4,068*</td>
<td>1,724*</td>
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<tr>
<td><strong>5-Year Ann Avg Employment Change:</strong></td>
<td>-0.5%</td>
<td>-0.6%</td>
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<td><strong>Forecast 5-Year Ann Employment Change:</strong></td>
<td>-0.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Total 5-Year Demand:</strong></td>
<td>47,486</td>
<td>19,009</td>
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</table>

Chmura Economics JobsEQ, 2022Q2 dataset. *Indicates live postings during the month of October, compared to 182,561 across all occupations statewide.
### Top Occupation Gaps

**Southwest**

- Heavy & Tractor Trailer Truck Drivers
- Industrial Machinery Mechanics
- Maintenance & Repair Workers, General
- Industrial Engineers
- Construction Managers

**Southeast**

- Maintenance & Repair Workers, General
- Heavy & Tractor Trailer Truck Drivers
- Industrial Machinery Mechanics
- Industrial Engineers
- Construction Managers

### Top Award Gaps

**Southwest**

- Welders, Cutters, Solderers, & Brazers
- Industrial Engineers
- Automotive Service Technicians & Mechanics
- Heavy & Tractor Trailer Truck Drivers
- Supervisors of Production & Operating Workers

**Southeast**

- Industrial Engineers
- HVAC Mechanics
- Mechanical Engineers
- Industrial Engineering Technicians
- Electrical Engineers
<table>
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<tr>
<th>Origin Occupations</th>
<th>Likely</th>
<th>Aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Laborers &amp; Freight, Stock Movers (HD)</td>
<td>Parking Lot Attendants</td>
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<tr>
<td></td>
<td>Slaughterers &amp; Meat Packers (HD, AG)</td>
<td>Retail Sales Workers</td>
</tr>
<tr>
<td></td>
<td>Team Assemblers</td>
<td>Stockers and Order Fillers</td>
</tr>
<tr>
<td></td>
<td>Packaging &amp; Filling Machine Operators &amp; Tenders</td>
<td>Janitors and Cleaners</td>
</tr>
<tr>
<td></td>
<td>Landscaping &amp; Groundskeeping Workers (HD, AG)</td>
<td>Customer Service Reps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gateway Occupations</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Heavy &amp; Tractor-Trailer Truck Drivers (HS, HD, OG, AG)</td>
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</tr>
<tr>
<td></td>
<td>Maintenance &amp; Repair Workers, General (HD, OG, AG)</td>
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<td></td>
<td>Construction Laborers</td>
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<tr>
<td></td>
<td>Carpenters (OG)</td>
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<td></td>
<td>Light Truck Drivers (HD, AG)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Target Occupations</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Industrial Engineers (AG)</td>
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</tr>
<tr>
<td></td>
<td>Construction Managers</td>
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</tr>
<tr>
<td></td>
<td>Mechanical Engineers (AG)</td>
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</tr>
<tr>
<td></td>
<td>Civil Engineers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Logisticians (AG)</td>
<td></td>
</tr>
</tbody>
</table>
### Engineering, Manufacturing, & Technology

#### Origin Occupations

**Likely**
- Laborers & Freight, Stock Movers
- Slaughterers & Meat Packers (HD)
- Team Assemblers
- Landscaping & Groundskeeping Workers (HD, AG)
- School Bus Drivers (HD)

**Aligned**
- Parking Lot Attendants
- Retail Sales Workers
- Stockers & Order Fillers
- Janitors & Cleaners
- Customer Service Reps

#### Gateway Occupations

- Heavy & Tractor-Trailer Truck Drivers (HS, HD, OG)
- Maintenance & Repair Workers, General (HD, OG)
- Construction Laborers
- Carpenters (OG)
- Automotive Service Technicians (HS, OG, AG)

#### Target Occupations (all HW, HD, HS)

- Construction Managers (OG)
- Logisticians (OG)
- Chemists
- Aircraft Mechanics & Service Technicians (AG)
- Data Scientists (OG)
# Engineering, Manufacturing, & Technology

## High Location Quotient

<table>
<thead>
<tr>
<th></th>
<th>Southwest</th>
<th>Southeast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Avg. Wage</strong></td>
<td>Region: $51,300</td>
<td>Region: $61,100</td>
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<tr>
<td></td>
<td>Field: $48,500</td>
<td>Field: $51,500</td>
</tr>
<tr>
<td><strong>Unemp Rate</strong></td>
<td>Region: 2.5%</td>
<td>Region: 2.2%</td>
</tr>
<tr>
<td></td>
<td>Field: 2.7%</td>
<td>Field: 2.5%</td>
</tr>
</tbody>
</table>

### Southwest Occupations
- Laborers & Stock Movers
- Slaughterers & Meat Packers
- Team Assemblers
- Packaging & Filling Machine Operators
- Landscaping & Groundskeeping Workers

### Southeast Occupations
- Laborers & Stock Movers
- Slaughterers & Meat Packers
- Team Assemblers
- Landscaping & Groundskeeping Workers
- School Bus Drivers

### Gateway Occupations
- Heavy & Tractor Trailer Drivers
- Maintenance & Repair Workers, All Other
- Construction Laborers
- Carpenters
- Light Truck Drivers

### Target Occupations
- Industrial Engineers
- Construction Managers
- Mechanical Engineers
- Civil Engineers
- Logicians

### High Location Quotient

**Southeast**
- Slaughterers & Meat Packers
- Ambulance Drivers & Attendants
- Cooling & Freezing Equipment Operators
- Meat, Poultry, & Fish Cutters
- Food & Tobacco Machine Operators & Tenders

---

Chmura Economics JobsEQ, 2022Q2 dataset.
## Agriculture, Food, & Natural Resources

### Summary Statistics

#### Southwest
- **2022Q2 Employment:** 31,265 (9.7% of SW employment)
- **Average Wage:** $52,000 (compared to $51,300 across all occupations)
- **Location Quotient:** 1.83
- **2022Q2 Unemployment:** 659 (2.1% rate)
- **30-Day Job Ads:** 760*
- **5-Year Ann Avg Employment Change:** -0.8%
- **Forecast 5-Year Ann Employment Change:** -0.5%
- **Total 5-Year Demand:** 16,955

#### Southeast
- **2022Q2 Employment:** 10,240 (5.9% of SE employment)
- **Average Wage:** $55,600 (compared to $61,100 across all occupations)
- **Location Quotient:** 1.10
- **2022Q2 Unemployment:** 194 (1.9% rate)
- **30-Day Job Ads:** 367*
- **5-Year Ann Avg Employment Change:** -0.8%
- **Forecast 5-Year Ann Employment Change:** -0.1%
- **Total 5-Year Demand:** 5,744

---

Chmura Economics JobsEQ, 2022Q2 dataset. *Indicates live postings during the month of October, compared to 182,561 across all occupations statewide.
### Southwest

#### Top Occupation Gaps
- Farmers, Ranchers, & Agricultural Managers
- Plumbers, Pipefitters, & Steamfitters
- Farm Equipment Mechanics
- HVAC Mechanics
- Chefs & Head Cooks

#### Top Award Gaps
- Farmers, Ranchers, & Agricultural Managers
- HVAC Mechanics
- Food Scientists & Technologists
- Veterinarians
- Landscaping & Groundskeeping Workers

### Southeast

#### Top Occupation Gaps
- Aircraft Mechanics & Service Technicians
- Supervisors of Landscaping & Groundskeepers
- Farmers, Ranchers, & Agricultural Managers
- Veterinarians
- HVAC Mechanics

#### Top Award Gaps
- Farmers, Ranchers, & Agricultural Managers
- HVAC Mechanics
- Veterinarians
- Food Scientists & Technologists
- Environmental Scientists & Specialists
### Agriculture, Food, & Natural Resources Southwest

#### Gateway Occupations
- Farm Equipment Mechanics & Service Technicians (HD, OG, AG)
- Food & Tobacco Machine Operators (HD)
- Chefs & Head Cooks (HD, OG)
- Telecommunications Line Installers
- Food Science Technicians (HS, HD)

#### Target Occupations (all HW, HD, HS)
- Veterinarians (OG, AG)
- Food Scientists & Technicians (AG)
- Chemists
- Postsecondary Biological Science Teachers (OG)
- Wind Turbine Service Technicians (OG, AG)

#### Origin Occupations

<table>
<thead>
<tr>
<th>Likely</th>
<th>Aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmworkers, Farm, Ranch, &amp; Aquacultural Animals</td>
<td>Compliance Officers</td>
</tr>
<tr>
<td>Landscaping &amp; Groundskeeping Workers (HD, AG)</td>
<td>Laborers / Freight Movers</td>
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<tr>
<td>Farmworkers &amp; Laborers, Crop Nursery &amp; Greenhouse</td>
<td>Stockers and Order Fillers</td>
</tr>
<tr>
<td>Food Batchmakers (AG)</td>
<td>Cooks</td>
</tr>
<tr>
<td>Meat, Poultry, &amp; Fish Cutters (HD)</td>
<td>Customer Service Reps</td>
</tr>
</tbody>
</table>
Agriculture, Food, & Natural Resources
Southeast

**Origin Occupations**
- Landscaping & Groundskeeping Workers (HD, AG)
- Farmworkers, Farm, Ranch, & Aquacultural Animals
- Meat, Poultry, & Fish Cutters & Trimmers (HD)
- Farmworkers & Laborers, Crop, Nursery & Greenhouse (HD)
- Animal Caretakers (HD)

**Likely**
- Compliance Officers
- Stockers & Order Fillers
- Laborers / Freight Movers

**Aligned**
- Veterinarians (OG, AG)
- Chemists
- Aircraft Mechanics & Service Technicians (AG)
- Food Scientists & Technologists (AG)
- Biological Science Teachers (OG)

**Gateway Occupations**
- HVAC Mechanics & Installers (HS, OG, AG)
- Food Batchmakers (HD)
- Telecommunications Equipment Installers (HS, HD)
- Supervisors of Landscaping Workers (HD, OG)
- Chefs & Head Cooks (HD, OG, AG)
- Refuse & Recyclable Material Collectors (HD)

**Target Occupations** (all HW, HD, HS)
- Veterinarians (OG, AG)
- Chemists
- Aircraft Mechanics & Service Technicians (AG)
- Food Scientists & Technologists (AG)
- Biological Science Teachers (OG)
# Agriculture, Food, & Natural Resources

<table>
<thead>
<tr>
<th>High Location Quotient</th>
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<tr>
<td><strong>Southwest</strong></td>
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<tr>
<td>• Animal Breeders</td>
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<td>• Farmworkers, Farm, Ranch &amp; Aquacultural Animals</td>
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<tr>
<td>• Farm Equipment Mechanics</td>
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<tr>
<td>• Food &amp; Tobacco Machine Operators &amp; Tenders</td>
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<td></td>
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<tr>
<td>• Food Science Technicians</td>
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<tr>
<td><strong>Unemp Rate</strong></td>
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<td>Region: 2.5%</td>
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<td>Field: 2.1%</td>
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<td>• Farmworkers, Farm, Ranch, &amp; Aquacultural Animals</td>
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<td>• Landscaping &amp; Groundskeeping Workers</td>
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<td>• Farmworkers &amp; Laborers</td>
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<td>• Food Batchmakers</td>
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<td>• Farm Equipment Mechanics &amp; Service Technicians</td>
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<td>• Food &amp; Tobacco Machine Operators &amp; Tenders</td>
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<tr>
<td>• Chefs &amp; Head Cooks</td>
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<tr>
<td>• Telecommunications Line Installers</td>
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<td>• Food Science Technicians</td>
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<td><strong>Target Occupations</strong></td>
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<tr>
<td>• Veterinarians</td>
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<tr>
<td>• Food Scientists &amp; Technicians</td>
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<tr>
<td>• Chemists</td>
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<tr>
<td>• Biological Science Teachers, Postsecondary</td>
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<tr>
<td>• Wind Turbine Service Technicians</td>
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<tr>
<td><strong>Southwest</strong></td>
<td>Region: $51,300</td>
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<td><strong>Field: $52,000</strong></td>
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</thead>
<tbody>
<tr>
<td><strong>Southeast</strong></td>
<td></td>
</tr>
<tr>
<td>• Animal Breeders</td>
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<tr>
<td>• Farmworkers, Farm, Ranch, &amp; Aquacultural Animals</td>
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<td>• Meat, Poultry, &amp; Fish Cutters</td>
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<td>• Farmers &amp; Ranchers</td>
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<td>• Telecommunications Equipment Installers</td>
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<tr>
<td>• Veterinarians</td>
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<td>• Chemists</td>
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<tr>
<td>• Aircraft Mechanics</td>
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<td>• Food Scientists &amp; Technologists</td>
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<tr>
<td>• Biological Science Teachers, Postsecondary</td>
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</table>

Chmura Economics JobsEQ, 2022Q2 dataset.
Summary and Discussion
What piece of the data surprised, inspired, validated, or challenged you?
From your perspective, what are the most important considerations in these data for Career and Technical Education programs?
What is one barrier that you can help remove for BIPOC students?
What additional information will you seek out next?
What changes or evaluations to your program will you prioritize next as a result of this data?
Thank you!

If you have questions about this report, please contact:
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