CAREER & TECHNICAL EDUCATION

Workforce Trends & Careers of Tomorrow

RealTime Talent
Erin Olson, Director of Strategic Research
October 2021

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Who’s in the Virtual “Room”

In the chat field, please share your name, your role, and the organization that you represent.
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Overview

MSP Metro Minnesota

- Community Profile
- Workforce Forecast
- Mid-Term Occupational Impacts
- Career Field Insights

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

Population Race, All Ages

- Suburban MSP: 81.3% White, 16.1% Black or African American, 0.4% Asian, 0.3% More Races
- St. Paul: 57.0% White, 19.2% Black or African American, 1.4% Asian, 4.8% More Races
- Minneapolis: 63.6% White, 9.8% Black or African American, 1.4% Asian, 4.8% More Races
- MSP Metro: 76.1% White, 9.8% Black or African American, 0.6% Asian, 3.6% More Races
- Minnesota: 82.8% White, 6.4% Black or African American, 4.8% Asian, 3.0% More Races

# Community Profile

**Educational Attainment, Age 25-64**

<table>
<thead>
<tr>
<th>Region</th>
<th>No High School Diploma</th>
<th>High School Graduate or GED</th>
<th>Some College, No Degree</th>
<th>Associate's Degree</th>
<th>Bachelor's Degree</th>
<th>Postgraduate Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suburban MSP</td>
<td>4.5%</td>
<td>18.1%</td>
<td>19.7%</td>
<td>11.8%</td>
<td>30.9%</td>
<td>15.0%</td>
</tr>
<tr>
<td>St. Paul</td>
<td>13.2%</td>
<td>19.5%</td>
<td>17.8%</td>
<td>8.0%</td>
<td>25.4%</td>
<td>16.1%</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>9.6%</td>
<td>14.2%</td>
<td>16.9%</td>
<td>7.5%</td>
<td>31.9%</td>
<td>19.9%</td>
</tr>
<tr>
<td>MSP Metro</td>
<td>6.2%</td>
<td>17.6%</td>
<td>19.0%</td>
<td>10.7%</td>
<td>30.5%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Minnesota</td>
<td>6.1%</td>
<td>21.7%</td>
<td>21.0%</td>
<td>12.9%</td>
<td>25.6%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

Legend:
- No High School Diploma
- High School Graduate or GED
- Some College, No Degree
- Associate's Degree
- Bachelor's Degree
- Postgraduate Degree

Employment for the MSP Metro

Employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2020Q4 with preliminary estimates updated to 2021Q1.
Annual average wages per worker data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and imputed where necessary. Data are updated through 2020Q4 with preliminary estimates updated to 2021Q1.
Community Profile

MSP Metro
Minnesota

- Gross Regional Product (GRP) contracted -2.6%
- Real Estate and Leasing contributes most to GRP
Workforce of Today & Tomorrow

Forecast

5-Year Forecast Comparison in the MSP Metro

Source: JobsEQ®. Data as of 2021Q1
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
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 Twin Cities 7-County Metro as of 2021Q1

Average Wages ($1,000s)

Average Annual Employment Forecast Rate(%) 2021Q1-2031Q1

Source: JobEQ/Database as of 2021Q1

MSP Metro
Minnesota
Mid-Term Occupational Impacts

High Contact-Intensity Occupations

Diverging Mid-Term Impacts (greatest losses and gains)
- Fast Food and Counter Workers (-18.7%)
- Waiters and Waitresses (-42.6%)
- Passenger Vehicle Drivers (20.6%)
- Bartenders (-42.6%)
- Personal Care Aides (+4.5%)
- Pharmacy Technicians (+0.3%)
- Phlebotomists (+0.4%)

Average unemployment rate of 7.8% across all high contact-intensity roles.
COVID-19 has accelerated talent surplus anticipated in lower-wage, lower-education positions, particularly:

1) high contact-intensity occupations and
2) positions that cannot be done remotely.
Emerging Career Paths

Top Emerging Occupations in the MSP Metro, March 1-August 31, 2021
1. Software Developers, Applications (+10%)
2. Heavy and Tractor-Trailer and Truck Drivers (+15%)
3. Laborers and Freight, Stock, and Material Movers (+251%)
4. Stock Clerks—Stockroom (+86%)
5. Personal Care Aides (+108%)

Top Emerging Skills in the MSP Metro in Order of Frequency in Job Postings, September 2020 - 2021
1. Supervision (+40%)
2. Software Engineering (+40%)
3. Product Development (+34%)
4. English Language Skills (+33%)
5. Software Development (+24%)
Emerging Career Paths
Trends in Remote Work Opportunities Advertised Online, MSP Metro 2021Q1

1. Software Developers, Applications (276%)
2. Computer Occupations, All Other (225%)
3. Marketing Managers (366%)
4. Management Analysts (250%)
5. Customer Service Representatives (267%)
6. Accountants and Auditors (425%)
7. Managers, All Other (215%)
8. Computer User Support Specialists (52%)
9. Market Research Analysts and Marketing Specialists (310%)
10. Computer Systems Analysts (144%)

Chmura Economics JobsEQ, 2021Q1 dataset.
Shifting Opportunities

Baseline Worst-Case Scenario 10-Year Forecasts by Career Cluster, MSP Metro 2021Q1

10 Year Forecast Growth Rate
Total Employment, Latest Available Data

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>5.0%</td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td>3.5%</td>
</tr>
<tr>
<td>Arts, A/V Technology &amp; Communications</td>
<td>-5.2%</td>
</tr>
<tr>
<td>Business, Management &amp; Administration</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>7.0%</td>
</tr>
<tr>
<td>Finance</td>
<td>1.5%</td>
</tr>
<tr>
<td>Government &amp; Public Administration</td>
<td>2.7%</td>
</tr>
<tr>
<td>Health Science</td>
<td>11.1%</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>6.3%</td>
</tr>
<tr>
<td>Human Services</td>
<td>9.9%</td>
</tr>
<tr>
<td>Information Technology</td>
<td>19.5%</td>
</tr>
<tr>
<td>Law, Public Safety, Corrections &amp; Security</td>
<td>1.7%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Marketing, Sales &amp; Service</td>
<td>5.5%</td>
</tr>
<tr>
<td>Science, Technology, Engineering &amp; Mathematics</td>
<td>3.8%</td>
</tr>
<tr>
<td>Transportation, Distribution &amp; Logistics</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

Cluster forecasts estimated using Chmura, JobsEQ, based on 2020Q1 employment data. All clusters are distinct occupations except for Agriculture, Food, and Natural Resources, which overlaps with other clusters.
Career Field Analysis

Target Occupations

*High wage* (above regional average)
*High-skill* (require some credential)
*High-demand* (2/4 indicators: under 3% unemployment, higher than average 5-year growth, total 5-year demand >50% of current employment, high job posting volume)

*Often also high occupation gap and award gap*

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)

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)
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
Baseline Worst-Case Scenario 3-Year Forecast for Health Science Technology Careers, MSP Metro 2021Q1

Chmura Economics JobsEQ, 2021Q1 dataset.
Health Science Technology

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Health Science Technology, MSP Metro 2021Q1

Certification Gaps

- Licensed Practical Nurse (LPN)
- Medical Technologist (Medical Technologists)
- Certified Nursing Assistant (CNA)
- Certified Home Health Aide
- Certified Clinical Medical Assistant (NHA)
- Pediatric Advanced Life Support (PALS)
- Trauma Nursing Core Course (TNCC)
- Registered Dental Assistant (RDA)
- National Phlebotomy Association Certified Phlebotomist
- Registered Respiratory Therapist (RRT)
Health Science Technology

MSP Metro, 2021Q1

**Target Occupations** (all HW, HD, HS, OG, AG)
- Registered Nurses
- Medical and Health Services Managers
- Nurse Practitioners
- Medical Scientists
- Speech-Language Pathologists
- Physician Assistants

**Gateway Occupations**
- Licensed Practical Nurses (HS, OG, AG)
- Medical Dosimetrists (HS, OG, AG)
- Medical and Clinical Lab Technologists/Technicians (HS, OG, AG)
- Veterinary Technologists (HS, HD, OG, AG)
- Dispensing Opticians (OG, AG)

**Origin Occupations**

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

**Aligned**
- Customer Service Reps
- Childcare Workers
- Secretaries
- Cashiers
- Cooks
## Top Ten Target Occupations in Health Science Technology, MSP 2021Q1

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>2021Q1 Empl</th>
<th>Mean Ann Wages</th>
<th>High-Wage</th>
<th>High-Skill</th>
<th>High-Demand</th>
<th>OG</th>
<th>AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>29-1141</td>
<td>Registered Nurses</td>
<td>36,626</td>
<td>$87,100</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>11-9111</td>
<td>Medical and Health Services Managers</td>
<td>4,831</td>
<td>$120,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>29-1171</td>
<td>Nurse Practitioners</td>
<td>2,282</td>
<td>$121,000</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>19-1042</td>
<td>Medical Scientists, Except Epidemiologists</td>
<td>1,732</td>
<td>$99,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>29-1127</td>
<td>Speech-Language Pathologists</td>
<td>1,543</td>
<td>$78,700</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>29-1071</td>
<td>Physician Assistants</td>
<td>1,353</td>
<td>$123,900</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>29-1126</td>
<td>Respiratory Therapists</td>
<td>1,236</td>
<td>$72,100</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>29-1131</td>
<td>Veterinarians</td>
<td>999</td>
<td>$94,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
<tr>
<td>29-2091</td>
<td>Orthotists and Prosthetists</td>
<td>160</td>
<td>$89,300</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
<tr>
<td>29-1081</td>
<td>Podiatrists</td>
<td>88</td>
<td>$158,600</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Human Services

Baseline Worst-Case Scenario 3-Year Forecast for Human Services Careers, MSP Metro

2021Q1

Historical - Forecast

Chmura Economics JobsEQ, 2021Q1 dataset.
Human Services

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Human Services,
MSP Metro 2021Q1

- Substance Abuse, Behavioral Disorder, and Mental Health Counselors ($55,600)
- Secondary School Teachers, Except Special and Career/Technical Education ($57,800)
- Child, Family, and School Social Workers ($60,400)
- Lawyers ($137,000)
- Social and Community Service Managers ($82,700)
- Police and Sheriff’s Patrol Officers ($82,700)
- Health Specialties Teachers, Postsecondary ($130,000)
- Compliance Officers ($87,600)
- Self-Enrichment Teachers ($43,600)

First-Line Supervisors of Personal Service and Entertainment and Recreation Workers, Except Gambling Services ($46,200)
- Laundry and Dry-Cleaning Workers ($30,300)
- Residential Advisors ($42,900)
- Paralegals and Legal Assistants ($61,500)
- Exercise Trainers and Group Fitness Instructors ($49,100)
- Hairdressers, Hairstylists, and Cosmetologists ($34,600)
- Security Guards ($39,400)
- Legal Secretaries and Administrative Assistants ($59,500)
- Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers ($25,500)
- School Bus Monitors and Protective Service Workers, All Other ($40,200)
- Childcare Workers ($30,200)

Certification Gaps

- AED Essentials
- Basic Life Support (BLS)
- Secret Clearance
- AFAC Personal Fitness Trainer
- Licensed Professional Counselor (LPC)
- Certified Protection Professional (CPP)
- Certified Diabetes Educator (CDE)
- Certified Alcohol and Drug Counselor (ADC)
- Regulatory Affairs Certification - US (RAC)
- Registered Professional Reporter (RPR)
Human Services
MSP Metro, 2021Q1

Target Occupations (all HW, HD, HS)
- Middle School Teachers (OG, AG)
- Guidance Counselors and Career Advisors (OG, AG)
- Social and Community Service Managers (OG, AG)
- Instructional Coordinators (OG)
- School Psychologists (OG, AG)
- Education Administrators (OG, AG)

Gateway Occupations
- Social and Human Service Assistants (HS, HD)
- Preschool Teachers (HD, OG, AG)
- Self-Enrichment Teachers (HD, OG, AG)
- Child, Family, and School Social Workers (HS, HD, OG, AG)
- Substance Abuse, Behavioral Disorder, and Mental Health Counselors (HS, HD, OG, AG)

Origin Occupations

<table>
<thead>
<tr>
<th>Likely</th>
<th>Aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Health Aides (HD, AG)</td>
<td>Tellers</td>
</tr>
<tr>
<td>Personal Care Aides (HD)</td>
<td>Retail Sales Workers</td>
</tr>
<tr>
<td>Teaching Assistants (HS, HD, AG)</td>
<td>Secretaries</td>
</tr>
<tr>
<td>Childcare Workers (HD, AG)</td>
<td>Cashiers</td>
</tr>
<tr>
<td>Security Guards (HD, AG)</td>
<td>Cooks</td>
</tr>
</tbody>
</table>
## Top Ten Target Occupations in Human Services, MSP 2021Q1

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>2021Q1 Empl</th>
<th>Mean Ann Wages*</th>
<th>High-Wage</th>
<th>High-Skill</th>
<th>High-Demand</th>
<th>OG</th>
<th>AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-2022</td>
<td>Middle School Teachers, Except Special and Career/Technical Education</td>
<td>5,000</td>
<td>$65,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>21-1012</td>
<td>Educational, Guidance, and Career Counselors and Advisors</td>
<td>2,843</td>
<td>$63,700</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>11-9151</td>
<td>Social and Community Service Managers</td>
<td>2,730</td>
<td>$82,700</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>25-9031</td>
<td>Instructional Coordinators</td>
<td>2,279</td>
<td>$78,800</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
<tr>
<td>19-3031</td>
<td>Clinical, Counseling, and School Psychologists</td>
<td>2,164</td>
<td>$86,400</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>25-1071</td>
<td>Health Specialties Teachers, Postsecondary</td>
<td>2,116</td>
<td>$130,000</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
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<tr>
<td>11-9032</td>
<td>Education Administrators, Kindergarten through Secondary</td>
<td>2,057</td>
<td>$119,300</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>21-2021</td>
<td>Directors, Religious Activities and Education</td>
<td>1,681</td>
<td>$76,300</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-1023</td>
<td>Mental Health and Substance Abuse Social Workers</td>
<td>1,486</td>
<td>$66,000</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
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<tr>
<td>13-2061</td>
<td>Financial Examiners</td>
<td>1,315</td>
<td>$95,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
</tbody>
</table>
Baseline Worst-Case Scenario 3-Year Forecast for Arts, Communications, and Information Systems Careers, MSP Metro 2021Q1
Arts, Communications, & Information Systems

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Arts, Communications, And Information Systems, MSP Metro 2021Q1

Certification Gaps

- Certified Security Software Lifecycle Professional (CSSLP)
- Microsoft Office Specialist (MOS)
- GAIC Reverse Engineering Malware (GREM)
- Certified Information Systems Auditor (CISA)
- Certified Scrum Product Owner (CSPO)
- Certification in Risk and Information Systems Control (CRISC)
- Basic Life Support (BLS)
- Offensive Security Certified Professional (OSCP)
- Certified Internal Auditor (CIA)
- Check Point Certified Security Administrator (CCSA)
# Arts, Communications, & Information Systems

**MSP Metro, 2021Q1**

<table>
<thead>
<tr>
<th><strong>Origin Occupations</strong></th>
<th><strong>Likely</strong></th>
<th><strong>Aligned</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Actors (HS, HD, AG)</td>
<td>Library Technicians</td>
<td>Amusement / Recreation Attendants</td>
</tr>
<tr>
<td>Models</td>
<td>Hosts and Hostesses</td>
<td>Customer Service Representatives</td>
</tr>
<tr>
<td>Floral Designers</td>
<td>Print Binding and Finishing Workers</td>
<td>Photo Process Machine Operators</td>
</tr>
<tr>
<td>Print Binding and Finishing Workers</td>
<td>Entertainers and Performers (HD, AG)</td>
<td></td>
</tr>
</tbody>
</table>

**Gateway Occupations**
- Graphic Designers
- Printing Press Operators
- Telecommunications Equipment Installers and Repairers
- Photographers
- Computer User Support Specialists
- Audio and Video Technicians

**Target Occupations** (all HW, HD, HS, OG, AG)
- Software Developers
- Network and Computer Systems Administrators
- Information Security Analysts
- Producers and Directors
- Special Effects Artists and Animators

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[www.RealTimeTalent.org](http://www.RealTimeTalent.org) View the Insights to Action and sector reports under the "Research" tab.
### Top Ten Target Occupations in Arts, Communications, and Information Systems, MSP 2021Q1

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>2021Q1 Empl</th>
<th>Mean Ann Wages ($)</th>
<th>High-Wage</th>
<th>High-Skill</th>
<th>High-Demand</th>
<th>OG</th>
<th>AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-1256</td>
<td>Software Developers and Software Quality Assurance Analysts and Testers</td>
<td>24,552</td>
<td>$109,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>15-1244</td>
<td>Network and Computer Systems Administrators</td>
<td>4,777</td>
<td>$89,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>15-1212</td>
<td>Information Security Analysts</td>
<td>2,070</td>
<td>$105,400</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>27-2012</td>
<td>Producers and Directors</td>
<td>1,234</td>
<td>$78,700</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>27-1014</td>
<td>Special Effects Artists and Animators</td>
<td>744</td>
<td>$68,000</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>27-1021</td>
<td>Commercial and Industrial Designers</td>
<td>526</td>
<td>$80,000</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>AG</td>
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</tr>
<tr>
<td>27-1013</td>
<td>Fine Artists, Including Painters, Sculptors, and Illustrators</td>
<td>288</td>
<td>$71,600</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
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<tr>
<td>27-1022</td>
<td>Fashion Designers</td>
<td>256</td>
<td>$75,200</td>
<td>HW</td>
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<tr>
<td>27-4032</td>
<td>Film and Video Editors</td>
<td>253</td>
<td>$75,900</td>
<td>HW</td>
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<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>13-1011</td>
<td>Agents and Business Managers of Artists, Performers, and Athletes</td>
<td>115</td>
<td>$64,800</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td></td>
<td>AG</td>
</tr>
</tbody>
</table>
Baseline Worst-Case Scenario 3-Year Forecast for Business, Management, and Administration Careers, MSP Metro 2021Q1

Chmura Economics JobsEQ, 2021Q1 dataset.

MSP Metro Minnesota
### Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Business, Management, and Administration, MSP Metro 2021Q1

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Annual Average Gaps</th>
<th>MSP Metro Minnesota</th>
</tr>
</thead>
<tbody>
<tr>
<td>General and Operations Managers ($131,000)</td>
<td>-175</td>
<td></td>
</tr>
<tr>
<td>Financial Managers ($150,500)</td>
<td>-138</td>
<td></td>
</tr>
<tr>
<td>Project Management Specialists and Business Operations Specialists, All Other ($80,600)</td>
<td>-121</td>
<td></td>
</tr>
<tr>
<td>Management Analysts ($101,800)</td>
<td>-114</td>
<td></td>
</tr>
<tr>
<td>Market Research Analysts and Marketing Specialists ($81,400)</td>
<td>-108</td>
<td></td>
</tr>
<tr>
<td>Accountants and Auditors ($78,500)</td>
<td>-75</td>
<td></td>
</tr>
<tr>
<td>Computer and Information Systems Managers ($156,700)</td>
<td>-66</td>
<td></td>
</tr>
<tr>
<td>Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other ($134,500)</td>
<td>-48</td>
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</tr>
<tr>
<td>Human Resources Specialists ($73,300)</td>
<td>-44</td>
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</tr>
<tr>
<td>Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other ($95,400)</td>
<td>40</td>
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</tr>
<tr>
<td>Bookkeeping, Accounting, and Auditing Clerks ($48,000)</td>
<td>79</td>
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</tr>
<tr>
<td>Stockers and Order Fillers ($34,500)</td>
<td>80</td>
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<tr>
<td>Executive Secretaries and Executive Administrative Assistants ($55,000)</td>
<td>86</td>
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<tr>
<td>Secretaries and Administrative Assistants, Except Legal, Medical, and Executive ($44,400)</td>
<td>110</td>
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<tr>
<td>Office Clerks, General ($43,000)</td>
<td>142</td>
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<tr>
<td>Customer Service Representatives ($44,700)</td>
<td>221</td>
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<tr>
<td>Waiters and Waitresses ($31,600)</td>
<td>256</td>
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<tr>
<td>Retail Salespersons ($33,000)</td>
<td>301</td>
<td></td>
</tr>
<tr>
<td>Fast Food and Counter Workers ($27,200)</td>
<td>465</td>
<td></td>
</tr>
<tr>
<td>Cashiers ($28,100)</td>
<td>613</td>
<td></td>
</tr>
</tbody>
</table>

Chmura Economics JobsEQ, 2021Q1 dataset.

### Certification Gaps

- AED Essentials
- Certified Internal Auditor (CIA)
- Certified Information Systems Auditor (CISA)
- Chartered Property Casualty Underwriter (CPCU)
- Adult CPR
- Certified Public Accountant (CPA)
- First Aid Certification
- Certified Personal Trainer (CPT)
- Certified Facility Manager (CFM)
- Six Sigma Green Belt Certification (SSGB)
Business, Management, & Administration

MSP Metro, 2021Q1

Target Occupations (all HW, HD, HS, OG, AG)
- Project Management Specialists
- Accountants and Auditors
- Management Analysts
- Market Research Analysts and Marketing Specialists
- Financial Managers

Gateway Occupations
- Customer Service Representatives (HD, AG)
- Office Clerks, General (HD)
- Secretaries and Administrative Assistants (HD, AG)
- Bookkeeping, Accounting, and Auditing Clerks (HS, HD, AG)
- Supervisors of Retail Workers (HD)
- Shipping, Receiving, and Inventory Clerks (AG)

Origin Occupations

Likely
- Retail Salespersons (HD)
- Fast Food and Counter Workers (HD)
- Cashiers (HD)
- Janitors and Cleaners (HD)
- Stockers and Order Fillers (HD)

Aligned
- Library Technicians
- Eligibility Interviewers
- Childcare Workers
## Top Ten Target Occupations in Business, Management, and Administration, MSP 2021Q1

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>2021Q1 Empl</th>
<th>Mean Ann Wages'</th>
<th>High-Wage</th>
<th>High-Skill</th>
<th>High-Demand</th>
<th>OG</th>
<th>AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-1198</td>
<td>Project Management Specialists and Business Operations Specialists, All Other</td>
<td>21,004</td>
<td>$80,600</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
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<tr>
<td>13-2011</td>
<td>Accountants and Auditors</td>
<td>17,873</td>
<td>$78,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
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<tr>
<td>13-1111</td>
<td>Management Analysts</td>
<td>13,861</td>
<td>$101,800</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>13-1161</td>
<td>Market Research Analysts and Marketing Specialists</td>
<td>12,042</td>
<td>$81,400</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>11-3031</td>
<td>Financial Managers</td>
<td>11,042</td>
<td>$150,500</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>13-1071</td>
<td>Human Resources Specialists</td>
<td>8,950</td>
<td>$73,300</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
<tr>
<td>13-2098</td>
<td>Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other</td>
<td>7,815</td>
<td>$95,400</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>11-2022</td>
<td>Sales Managers</td>
<td>6,727</td>
<td>$142,900</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>11-2021</td>
<td>Marketing Managers</td>
<td>5,728</td>
<td>$154,900</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>27-3031</td>
<td>Public Relations Specialists</td>
<td>3,909</td>
<td>$70,600</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
</tbody>
</table>
Baseline Worst-Case Scenario 3-Year Forecast for Engineering, Manufacturing, and Technology Careers, MSP Metro 2021Q1

Chmura Economics JobsEQ, 2021Q1 dataset.
Engineering, Manufacturing, & Technology

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Engineering, Manufacturing, and Technology, MSP Metro 2021Q1

- Industrial Engineers ($98,300)
- Maintenance and Repair Workers, General ($52,400)
- Construction Managers ($101,300)
- Industrial Machinery Mechanics ($64,500)
- Carpenters ($59,300)
- Heavy and Tractor-Trailer Truck Drivers ($54,100)
- Electricians ($75,400)
- Mechanical Engineers ($92,800)
- First-Line Supervisors of Construction Trades and Extraction Workers ($82,900)
- First-Line Supervisors of Mechanics, Installers, and Repairers ($77,500)
- Helpers—Production Workers ($35,700)
- Automotive and Watercraft Service Attendants ($30,100)
- Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic ($44,200)
- Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic ($38,900)
- Cleaners of Vehicles and Equipment ($30,600)
- Assemblers and Fabricators, All Other ($37,700)
- Packers and Packagers, Hand ($30,500)
- Inspectors, Testers, Sorters, Samplers, and Weighers ($48,500)
- Laborers and Freight, Stock, and Material Movers, Hand ($39,300)
- Team Assemblers ($37,900)

Certification Gaps

- Class A Commercial Driver’s License (CDL-A)
- Commercial Driver’s License (CDL)
- 40 hour HAZWOPER
- OSHA 10
- Six Sigma Green Belt Certification (SSGB)
- NCIDQ Certification
- AED Essentials
- Commercial Mechanical Inspector (CMI)
- Certified Welder
- Transportation Worker Identification Credential (TWIC)

Chmura Economics JobsEQ, 2021Q1 dataset.
### Engineering, Manufacturing, & Technology

**MSP Metro, 2021Q1**

**Origin Occupations**
- Laborers and Freight, Stock Movers (HD)
- Team Assemblers
- Landscaping and Groundskeeping Workers (HD)
- Light Truck Drivers (HD, AG)
- Passenger Vehicle Drivers (HD, AG)

**Likely**
- Parking Lot Attendants
- Retail Sales Workers
- Stockers and Order Fillers
- Janitors and Cleaners
- Personal Services Managers

**Aligned**
- Industrial Engineers (OG, AG)
- Architectural and Engineering Managers (OG)
- Logisticians (OG)
- Cost Estimators (OG, AG)
- Aircraft Mechanics and Service Technicians (OG, AG)
- Environmental Scientists and Specialists (OG, AG)

**Gateway Occupations**
- Heavy and Tractor Trailer Drivers (HS, HD, OG, AG)
- Maintenance and Repair Workers, General (HD, OG)
- Carpenters (OG, AG)
- Construction Laborers
- Automotive Service Technicians and Mechanics (HS, AG)
- Supervisors of Production and Operating Workers (HW, HD, OG)

**Target Occupations**
- Industrial Engineers (OG, AG)
- Architectural and Engineering Managers (OG)
- Logisticians (OG)
- Cost Estimators (OG, AG)
- Aircraft Mechanics and Service Technicians (OG, AG)
- Environmental Scientists and Specialists (OG, AG)

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**RealTimeTalent.org**

View the Insights to Action and sector reports under the "Research" tab.
## Top Ten Target Occupations in Engineering, Manufacturing, and Technology, MSP 2021Q1

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>2021Q1 Empl</th>
<th>Mean Ann Wages(^\d)</th>
<th>High-Wage</th>
<th>High-Skill</th>
<th>High-Demand</th>
<th>OG</th>
<th>AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-2112</td>
<td>Industrial Engineers</td>
<td>6,190</td>
<td>$98,300</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>11-9041</td>
<td>Architectural and Engineering Managers</td>
<td>2,847</td>
<td>$158,900</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
<tr>
<td>13-1081</td>
<td>Logisticians</td>
<td>2,355</td>
<td>$80,400</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
<tr>
<td>13-1051</td>
<td>Cost Estimators</td>
<td>2,265</td>
<td>$73,900</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>49-3011</td>
<td>Aircraft Mechanics and Service Technicians</td>
<td>1,455</td>
<td>$82,900</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>19-2041</td>
<td>Environmental Scientists and Specialists, Including Health</td>
<td>1,199</td>
<td>$82,000</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td>AG</td>
</tr>
<tr>
<td>15-2098</td>
<td>Data Scientists and Mathematical Science Occupations, All Other</td>
<td>865</td>
<td>$98,800</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
<tr>
<td>15-2041</td>
<td>Statisticians</td>
<td>598</td>
<td>$90,200</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
<tr>
<td>51-9162</td>
<td>Computer Numerically Controlled Tool Programmers</td>
<td>566</td>
<td>$69,200</td>
<td>HW</td>
<td>HS</td>
<td>HD</td>
<td>OG</td>
<td></td>
</tr>
</tbody>
</table>

*Chmura Economics JobsEQ, 2021Q1 dataset.*
Agriculture, Food, & Natural Resources

Annual Average Occupation Gaps (i.e. Talent Shortages) for the next 10 Years in Agriculture, Food, and Natural Resources, MSP Metro 2021Q1

Certification Gaps

- Registered Veterinary Technician (RVT)
- Six Sigma Green Belt Certification (SSGB)
- Laboratory Animal Technician (LAT)
- Certified Professional Dog Trainer (CPDT)
- 40 hour HAZWOPER
- Class B Commercial Driver’s License (CDL-B)
- HAZMAT
- Certified Clinical Research Coordinator (CCRC)
- Emergency Medical Technician - Basic (EMT-B)
- OSHA 10
# Agriculture, Food, & Natural Resources

**MSP Metro, 2021Q1**

## Origin Occupations

<table>
<thead>
<tr>
<th>Likely</th>
<th>Aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscaping and Groundskeeping Workers (HD)</td>
<td>Compliance Officers</td>
</tr>
<tr>
<td>Animal Caretakers (HD, AG)</td>
<td>Laborers and Freight Movers</td>
</tr>
<tr>
<td>Bakers (HD, AG)</td>
<td>Stockers and Order Fillers</td>
</tr>
<tr>
<td>Veterinary Techs HS, HD, OG, AG</td>
<td>Cooks</td>
</tr>
<tr>
<td>Farmworkers and Laborers (AG)</td>
<td>Customer Service Reps</td>
</tr>
</tbody>
</table>

## Gateway Occupations

- Telecommunications Equipment Installers and Repairers (HS, AG)
- Farmers, Ranchers, and Other Agricultural Managers (HW, HD, OG)
- Supervisors of Groundskeeping Workers (HD, OG, AG)
- Butchers and Meat Cutters
- Refuse and Recyclable Material Collectors- (AG)
- Waste/water Treatment Plant and System Operators (HW, HD, AG)

## Target Occupations

(all HW, HD, HS)
- Aircraft Mechanics and Service Technicians (OG, AG)
- Environmental Scientists and Specialists (OG, AG)
- Veterinarians (OG)
- Environmental Engineers (OG, AG)
- Surveyors (OG, AG)
- Urban and Regional Planners (OG)
## Top Ten Target Occupations in Engineering, Manufacturing, and Technology, MSP 2021Q1

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>2021Q1 Empl</th>
<th>Mean Ann Wages</th>
<th>High-Wage</th>
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<td>HD</td>
<td>OG</td>
<td></td>
</tr>
</tbody>
</table>
Summary and Discussion
Discussion Question 1

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:
Erin Olson, Director of Strategic Research,
erin@realtimetalentmn.org
Appendix