



# 2022 Pathway Analysis





# Learner Pathways and Occupations

*Setting clear expectations for what  
students need to be successful in the  
long-term in the occupations  
employers value most*



# The Demand for Talent

- Arizona is projected to add 721,689 jobs from 2020-2030, more than 3x U.S. growth
- Largest gains are anticipated in education, health services, professional and business services, construction, financial services and manufacturing
- These jobs require post-secondary education and credential attainment



# Learner Pathways and H3 Occupations



- Robust learner pathways provide K-12 learners with opportunities to:
  - **Learn** academic and technical skills needed for success in post-secondary and workplace
  - **Earn** college credit and valued industry-recognized credentials while still in high school
  - **Engage** with their peers and employers in a range of work-based learning experiences in occupational areas of interest
  - **Succeed** in the seamless transition to post-secondary programs to continue and complete a credential and enter the workplace.



## H3 Occupations

1. **High-demand:** Occupations that are in-demand now by Greater Phoenix employers or that are projected to add more than 400 jobs per year
2. **High-skill:** Occupations that require knowledge and mastery of academic and technical skills associated with a post-secondary credential and represent the region's evolving economy and talent needs
3. **High-wage:** Occupations that pay a sustainable wage in the Greater Phoenix labor market (at least \$19 per hour)

# Targeted Occupational Sectors



- Architecture & Construction
- Business Management & Administration, Marketing and Sales
- Education
- Engineering (STEM)
- Financial Services
- Health Sciences
- Information Technology & Cybersecurity
- Manufacturing
- Transportation, Distribution & Logistics



# Opportunity Analysis

*Understanding which learner pathways  
offer the most return on investment for  
Phoenix's communities, businesses  
and economy.*



# Opportunity Analysis

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*ElevateEdAZ partnered with EMSI Burning Glass to analyze the range of H3 occupations within each of the targeted occupational sectors in the Great Phoenix region.*

*From the comprehensive list, what follows are examples of H3 occupations and how robust pathways can prepare K-12 learners for a range of opportunities.*



# Architecture and Construction



# Architecture and Construction

Architectural and Engineering Managers	Bachelor's degree Typical Entry-Level Education	\$159,889 Average Salary	7.0% Projected Growth (2021-2026)	9% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	3,310 Employment (2021)	2,224 Job Postings (2021)	0.02 Automation Risk Score	11-9041 Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Staff Management</li> <li>• Budgeting</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Engineering Management</li> <li>• Product Development</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Scheduling</li> <li>• Software Development</li> <li>• Software Engineering</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Repair</li> <li>• Customer Service</li> </ul> </div> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Project Management Certification</li> <li>• Security Clearance</li> <li>• Licensed Professional Engineer</li> </ul> </div>								
Construction Managers	Bachelor's degree Typical Entry-Level Education	\$91,409 Average Salary	17.3% Projected Growth (2021-2026)	17% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	7,474 Employment (2021)	4,560 Job Postings (2021)	0.07 Automation Risk Score	11-9021 Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Project Management</li> <li>• Scheduling</li> <li>• Budgeting</li> <li>• Estimating</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Construction Management</li> <li>• Quality Assurance and Control</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Occupational Health and Safety</li> <li>• Commercial Construction</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Cost Control</li> <li>• Customer Service</li> </ul> </div> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Project Management Certification</li> </ul> </div>								
Electricians	High school diploma or equivalent Typical Entry-Level Education	\$50,025 Average Salary	19.0% Projected Growth (2021-2026)	31% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	12,195 Employment (2021)	1,512 Job Postings (2021)	0.15 Automation Risk Score	47-2111 Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Electrical Work</li> <li>• Repair</li> <li>• Electrical Systems</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Wiring</li> <li>• Hand Tools</li> <li>• Electrical Experience</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Occupational Health and Safety</li> <li>• Transformers</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Power Tools</li> <li>• Electrical Engineering</li> </ul> </div> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Electrician Certification</li> </ul> </div>								



# Architecture and Construction

<b>First-Line Supervisors of Mechanics, Installers, and Repairers</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$69,854</b> Average Salary	<b>10.2%</b> Projected Growth (2021-2026)	<b>34%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>8,330</b> Employment (2021)	<b>3,397</b> Job Postings (2021)	<b>0.00</b> Automation Risk Score	<b>49-1011</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Supervisory Skills</li> <li>Repair</li> <li>Scheduling</li> <li>Plumbing</li> <li>HVAC</li> <li>Carpentry</li> <li>Budgeting</li> <li>Predictive/Preventative Maintenance</li> <li>Occupational Health and Safety</li> <li>Customer Service</li> </ul>								
<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified Pool/Spa Operator</li> </ul>								
<b>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</b>	<b>Postsecondary nondegree award</b> Typical Entry-Level Education	<b>\$50,164</b> Average Salary	<b>12.0%</b> Projected Growth (2021-2026)	<b>53%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>8,612</b> Employment (2021)	<b>2,920</b> Job Postings (2021)	<b>0.65</b> Automation Risk Score	<b>49-9021</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>HVAC</li> <li>Repair</li> <li>Plumbing</li> <li>Duct Work</li> <li>Ventilation</li> <li>Cleaning</li> <li>Power Tools</li> <li>Hand Tools</li> <li>Customer Service</li> <li>Predictive/Preventative Maintenance</li> </ul>								
<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Environmental Protection Agency Certification</li> <li>EPA Section 608 Technician Certification</li> <li>North American Technician Excellence (NATE)</li> </ul>								
<b>Plumbers, Pipefitters, and Steamfitters</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$53,730</b> Average Salary	<b>14.2%</b> Projected Growth (2021-2026)	<b>35%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>8,379</b> Employment (2021)	<b>1,230</b> Job Postings (2021)	<b>0.35</b> Automation Risk Score	<b>47-2152</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Plumbing</li> <li>Repair</li> <li>Commercial Plumbing</li> <li>PipeFitting</li> <li>Water Heaters</li> <li>Plumbing Systems</li> <li>Hand Tools</li> <li>Soldering</li> <li>Customer Service</li> <li>Residential Plumbing</li> </ul>								
<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Plumbing License</li> <li>Plumbing Certification</li> <li>Backflow Prevention Certification</li> </ul>								

# Business Management & Administration, Marketing and Sales



# Business Management & Administration, Marketing and Sales



<b>Buyers and Purchasing Agents</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$71,629</b> Average Salary	<b>4.3%</b> Projected Growth (2021-2026)	<b>38%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>6,955</b> Employment (2021)	<b>3,185</b> Job Postings (2021)	<b>0.64</b> Automation Risk Score	<b>13-1028</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Procurement</li> <li>• Purchasing</li> <li>• Contract Management</li> <li>• Scheduling</li> <li>• Contract Preparation</li> <li>• Contract Review</li> <li>• Supply Chain Management</li> <li>• Project Management</li> <li>• Negotiation Skills</li> <li>• Contract Administration</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Real Estate Certification</li> </ul>			
<b>Human Resources Specialists</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$65,060</b> Average Salary	<b>11.0%</b> Projected Growth (2021-2026)	<b>49%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>12,510</b> Employment (2021)	<b>10,516</b> Job Postings (2021)	<b>0.31</b> Automation Risk Score	<b>13-1071</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Recruiting</li> <li>• Onboarding</li> <li>• Talent Acquisition</li> <li>• Scheduling</li> <li>• Applicant Tracking System</li> <li>• Social Media</li> <li>• Customer Service</li> <li>• Employee Relations</li> <li>• Full-life Cycle Recruiting</li> <li>• Human Resource Information System (HRIS)</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• SHRM Certified Professional (SHRM-CP)</li> <li>• Professional in Human Resources</li> </ul>			
<b>Management Analysts</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$94,538</b> Average Salary	<b>14.3%</b> Projected Growth (2021-2026)	<b>23%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>15,720</b> Employment (2021)	<b>6,112</b> Job Postings (2021)	<b>0.13</b> Automation Risk Score	<b>13-1111</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Business Analysis</li> <li>• Project Management</li> <li>• Business Process</li> <li>• SQL</li> <li>• Data Analysis</li> <li>• Customer Service</li> <li>• Customer Contact</li> <li>• Change Management</li> <li>• Budgeting</li> <li>• Process Improvement</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Project Management Certification</li> </ul>			



# Business Management & Administration, Marketing and Sales



Market Research Analysts and Marketing Specialists	Bachelor's degree Typical Entry-Level Education	\$65,193 Average Salary	17.2% Projected Growth (2021-2026)	50% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	13,735 Employment (2021)	4,580 Job Postings (2021)	0.61 Automation Risk Score	13-1161 Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Marketing</li> <li>Market Strategy</li> <li>Digital Marketing</li> <li>Project Management</li> <li>Budgeting</li> <li>Customer Service</li> <li>Adobe Photoshop</li> <li>Social Media</li> <li>Facebook</li> <li>Instagram</li> </ul>								

Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	High school diploma or equivalent Typical Entry-Level Education	\$70,183 Average Salary	6.0% Projected Growth (2021-2026)	60% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	19,094 Employment (2021)	25,489 Job Postings (2021)	0.85 Automation Risk Score	41-4012 Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Sales</li> <li>Customer Service</li> <li>Sales Goals</li> <li>Customer Contact</li> <li>Prospective Clients</li> <li>Inside Sales</li> <li>Outside Sales</li> <li>Product Sales</li> <li>Business Development</li> <li>Salesforce</li> </ul>								

# Education



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# Education



<b>Elementary School Teachers, Except Special Education</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$49,889</b> Average Salary	<b>8.1%</b> Projected Growth (2021-2026)	<b>78%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>15,179</b> Employment (2021)	<b>2,725</b> Job Postings (2021)	<b>0.00</b> Automation Risk Score	<b>25-2021</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Teaching</li> <li>Lesson Planning</li> <li>Progress Reports</li> <li>Elementary Education</li> <li>Special Education</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified Teacher</li> </ul>			
<b>Middle School Teachers, Except Special and Career/Technical Education</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$48,224</b> Average Salary	<b>8.0%</b> Projected Growth (2021-2026)	<b>70%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>7,121</b> Employment (2021)	<b>3,467</b> Job Postings (2021)	<b>0.17</b> Automation Risk Score	<b>25-2022</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Teaching</li> <li>Lesson Planning</li> <li>Progress Reports</li> <li>Social Studies</li> <li>Special Education</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified Teacher</li> </ul>			
<b>Secondary School Teachers, Except Special and Career/Technical Education</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$56,496</b> Average Salary	<b>8.8%</b> Projected Growth (2021-2026)	<b>72%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>10,686</b> Employment (2021)	<b>1,413</b> Job Postings (2021)	<b>0.01</b> Automation Risk Score	<b>25-2031</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Teaching</li> <li>Lesson Planning</li> <li>Progress Reports</li> <li>Learning Styles</li> <li>Social Studies</li> <li>Special Education</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified Teacher</li> </ul>			



# Education



Special Education Teachers, All Other	Bachelor's degree Typical Entry-Level Education	\$62,712 Average Salary	30.2% Projected Growth (2021-2026)	44% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	165 Employment (2021)	1,293 Job Postings (2021)	0.01 Automation Risk Score	25-2059 Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"><li>Teaching</li><li>Special Education</li><li>Lesson Planning</li><li>Toileting</li><li>Cardiopulmonary Resuscitation (CPR)</li><li>Autism Diagnosis/ Treatment/Care</li><li>Progress Reports</li></ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"><li>Certified Teacher</li><li>First Aid, CPR and AED Certification</li><li>Special Education Certification</li></ul>			

# Engineering (STEM)



# Engineering (STEM)

Architectural and Engineering Managers	Bachelor's degree Typical Entry-Level Education	\$159,889 Average Salary	7.0% Projected Growth (2021-2026)	9% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	3,310 Employment (2021)	2,224 Job Postings (2021)	0.02 Automation Risk Score	11-9041 Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Project Management</li> <li>Staff Management</li> <li>Product Development</li> <li>Engineering Management</li> <li>Software Development</li> <li>Software Engineering</li> <li>Budgeting</li> <li>Scheduling</li> <li>Repair</li> <li>Customer Service</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Project Management Certification</li> <li>Licensed Professional Engineer</li> <li>Security Clearance</li> </ul>			
Calibration Technologists and Technicians and Engineering Technologists and Technicians, Except Drafters, All Other	Associate's degree Typical Entry-Level Education	\$51,647 Average Salary	9.6% Projected Growth (2021-2026)	57% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	1,268 Employment (2021)	2,802 Job Postings (2021)	0.24 Automation Risk Score	17-3098 Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Repair</li> <li>Cleaning</li> <li>Packaging</li> <li>Technical Support</li> <li>Machinery</li> <li>Hand Tools</li> <li>Personal Protective Equipment (PPE)</li> <li>Forklift Operation</li> <li>Scheduling</li> <li>Quality Assurance and Control</li> </ul>								
Civil Engineers	Bachelor's degree Typical Entry-Level Education	\$85,633 Average Salary	10.1% Projected Growth (2021-2026)	31% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	4,564 Employment (2021)	1,951 Job Postings (2021)	0.02 Automation Risk Score	17-2051 Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Civil Engineering</li> <li>Project Management</li> <li>Budgeting</li> <li>Scheduling</li> <li>AutoCAD</li> <li>Professional Engineer</li> <li>Construction Management</li> <li>Civil 3D</li> <li>Calculation</li> <li>Land Development</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Licensed Professional Engineer</li> <li>Engineer in Training Certification</li> <li>American Board for Engineering and Technology (ABET) Accredited</li> </ul>			

# Engineering (STEM)

<b>Electrical Engineers</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$101,367</b> Average Salary	<b>8.5%</b> Projected Growth (2021-2026)	<b>14%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>3,411</b> Employment (2021)	<b>2,101</b> Job Postings (2021)	<b>0.10</b> Automation Risk Score	<b>17-2071</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Electrical Engineering</li> <li>Project Management</li> <li>Budgeting</li> <li>Scheduling</li> <li>Engineering Design and Installation</li> <li>Engineering Design</li> <li>Electrical Systems</li> <li>Simulation</li> <li>AutoCAD</li> <li>Electrical Design</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>American Board for Engineering and Technology (ABET) Accredited</li> <li>Licensed Professional Engineer</li> <li>Security Clearance</li> </ul>			
<b>Industrial Engineering Technologists and Technicians</b>	<b>Associate's degree</b> Typical Entry-Level Education	<b>\$62,904</b> Average Salary	<b>7.8%</b> Projected Growth (2021-2026)	<b>55%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>1,148</b> Employment (2021)	<b>2,366</b> Job Postings (2021)	<b>0.03</b> Automation Risk Score	<b>17-3026</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Repair</li> <li>Machinery</li> <li>Welding</li> <li>Schematic Diagrams</li> <li>Predictive/ Preventative Maintenance</li> <li>Occupational Health and Safety</li> <li>Scheduling</li> <li>Hand Tools</li> <li>Cleaning</li> <li>Forklift Operation</li> </ul>								
<b>Mechanical Engineers</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$101,753</b> Average Salary	<b>8.9%</b> Projected Growth (2021-2026)	<b>23%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>3,653</b> Employment (2021)	<b>1,817</b> Job Postings (2021)	<b>0.01</b> Automation Risk Score	<b>17-2141</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Mechanical Engineering</li> <li>Project Management</li> <li>Mechanical Design</li> <li>Scheduling</li> <li>Budgeting</li> <li>Physics</li> <li>Product Development</li> <li>HVAC</li> <li>SolidWorks</li> <li>AutoCAD</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Security Clearance</li> </ul>			



# Financial Services





# Financial Services



<b>Accountants and Auditors</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$76,406</b> Average Salary	<b>12.7%</b> Projected Growth (2021-2026)	<b>36%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>20,763</b> Employment (2021)	<b>7,324</b> Job Postings (2021)	<b>0.94</b> Automation Risk Score	<b>13-2011</b> Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>Accounting</li> <li>Account Reconciliation</li> <li>General Ledger</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Generally Accepted Accounting Principles (GAAP)</li> <li>Financial Statements</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Budgeting</li> <li>Financial Reporting</li> <li>Balance Sheet</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>External Auditing</li> <li>Internal Auditing</li> </ul> </div> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified Public Accountant (CPA)</li> <li>Institute of Internal Auditors (IIA)</li> <li>Certified Information Systems Auditor (CISA)</li> </ul> </div>								
<b>Bookkeeping, Accounting, and Auditing Clerks</b>	<b>Some college, no degree</b> Typical Entry-Level Education	<b>\$45,305</b> Average Salary	<b>7.7%</b> Projected Growth (2021-2026)	<b>63%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>22,403</b> Employment (2021)	<b>7,980</b> Job Postings (2021)	<b>0.98</b> Automation Risk Score	<b>43-3031</b> Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>Accounting</li> <li>Accounts Payable/Accounts Receivable</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Bookkeeping</li> <li>Data Entry</li> <li>Customer Billing</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Quickbooks</li> <li>Account Reconciliation</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Customer Checkout</li> <li>Customer Service</li> <li>Invoice Processing</li> </ul> </div> </div>								
<b>Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$83,156</b> Average Salary	<b>14.6%</b> Projected Growth (2021-2026)	<b>27%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>6,746</b> Employment (2021)	<b>4,783</b> Job Postings (2021)	<b>0.28</b> Automation Risk Score	<b>13-2098</b> Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>Financial Analysis</li> <li>Accounting</li> <li>Budgeting</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Risk Management</li> <li>Project Management</li> <li>Economics</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Financial Reporting</li> <li>SQL</li> <li>Data Analysis</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Customer Service</li> </ul> </div> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified Public Accountant (CPA)</li> </ul> </div>								

# Financial Services



Financial Managers	Bachelor's degree Typical Entry-Level Education	\$132,777 Average Salary	18.3% Projected Growth (2021-2026)	12% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	11,200 Employment (2021)	5,378 Job Postings (2021)	0.07 Automation Risk Score	11-3031 Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>Accounting</li> <li>Budgeting</li> <li>Financial Reporting</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Finance</li> <li>Financial Statements</li> <li>Public Accounting</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Generally Accepted Accounting Principles (GAAP)</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Financial Analysis</li> <li>Account Reconciliation</li> <li>Staff Management</li> </ul> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified Public Accountant (CPA)</li> </ul> </div> </div>								
Loan Officers	Bachelor's degree Typical Entry-Level Education	\$59,107 Average Salary	13.9% Projected Growth (2021-2026)	46% Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	9,233 Employment (2021)	3,920 Job Postings (2021)	0.98 Automation Risk Score	13-2072 Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>Mortgage Lending</li> <li>Mortgage Underwriting</li> <li>Customer Service</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Insurance Underwriting</li> <li>Loan Origination</li> <li>Customer Contact</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Mortgage Loan Origination</li> <li>Loan Processing</li> <li>Sales</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Nationwide Mortgage Licensing System (NMLS)</li> </ul> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified Loan Officer</li> <li>Mortgage License</li> </ul> </div> </div>								

# Health Sciences



# Health Sciences



<b>Clinical Laboratory Technologists and Technicians</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$50,504</b> Average Salary	<b>17.0%</b> Projected Growth (2021-2026)	<b>76%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>7,010</b> Employment (2021)	<b>3,902</b> Job Postings (2021)	<b>0.68</b> Automation Risk Score	<b>29-2018</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Quality Assurance and Control</li> <li>• Patient Care</li> <li>• Laboratory Testing</li> <li>• Laboratory Equipment</li> <li>• Data Entry</li> <li>• Customer Service</li> <li>• Occupational Health and Safety</li> <li>• Phlebotomy</li> <li>• Chemistry</li> <li>• Microbiology</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• American Society For Clinical Pathology (ASCP) Certification</li> <li>• Certified Medical Laboratory Technician</li> <li>• Basic Life Saving (BLS)</li> </ul>			
<b>Dental Assistants</b>	<b>Postsecondary nondegree award</b> Typical Entry-Level Education	<b>\$42,496</b> Average Salary	<b>14.8%</b> Projected Growth (2021-2026)	<b>85%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>6,332</b> Employment (2021)	<b>3,075</b> Job Postings (2021)	<b>0.51</b> Automation Risk Score	<b>31-9091</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Dentistry</li> <li>• Dental Procedures</li> <li>• X-Rays</li> <li>• Patient Care</li> <li>• Dentrix</li> <li>• Radiology</li> <li>• Occupational Health and Safety</li> <li>• Health Insurance Portability and Accountability Act (HIPAA)</li> <li>• Appointment Setting</li> <li>• Cardiopulmonary Resuscitation (CPR)</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Certified Dental Assistant</li> <li>• First Aid, CPR and AED Certification</li> <li>• Basic Life Saving (BLS)</li> </ul>			
<b>Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other</b>	<b>Postsecondary nondegree award</b> Typical Entry-Level Education	<b>\$46,387</b> Average Salary	<b>13.9%</b> Projected Growth (2021-2026)	<b>68%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>5,179</b> Employment (2021)	<b>7,366</b> Job Postings (2021)	<b>0.34</b> Automation Risk Score	<b>29-2098</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Medical Coding</li> <li>• Customer Billing</li> <li>• Patient Care</li> <li>• Customer Service</li> <li>• Scheduling</li> <li>• Medical Billing</li> <li>• Cardiopulmonary Resuscitation (CPR)</li> <li>• ICD-10</li> <li>• Medical Records</li> <li>• Billing</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• First Aid, CPR and AED Certification</li> <li>• Registered Health Information Technician</li> <li>• Certified Professional Coder</li> </ul>			



# Health Sciences



<b>Registered Nurses</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$81,387</b> Average Salary	<b>14.6%</b> Projected Growth (2021-2026)	<b>80%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>39,111</b> Employment (2021)	<b>35,080</b> Job Postings (2021)	<b>0.01</b> Automation Risk Score	<b>29-1141</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Patient Care</li> <li>• Advanced Cardiac Life Support (ACLS)</li> <li>• Treatment Planning</li> <li>• Care Planning</li> <li>• Discharge Planning</li> <li>• Life Support</li> <li>• Teaching</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Registered Nurse</li> <li>• Basic Life Saving (BLS)</li> <li>• Advanced Cardiac Life Support (ACLS) Certification</li> </ul>			

<b>Respiratory Therapists</b>	<b>Associate's degree</b> Typical Entry-Level Education	<b>\$61,444</b> Average Salary	<b>18.0%</b> Projected Growth (2021-2026)	<b>90%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>2,375</b> Employment (2021)	<b>828</b> Job Postings (2021)	<b>0.07</b> Automation Risk Score	<b>29-1126</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Respiratory Therapy</li> <li>• Advanced Cardiac Life Support (ACLS)</li> <li>• Treatment Planning</li> <li>• Life Support</li> <li>• Mechanical Ventilators</li> <li>• Patient Evaluation</li> <li>• Cardiopulmonary Resuscitation (CPR)</li> <li>• Ventilation</li> <li>• Therapy</li> <li>• Patient Care</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Registered Respiratory Therapist</li> <li>• Certified Respiratory Therapist</li> <li>• Advanced Cardiac Life Support (ACLS) Certification</li> </ul>			

# Information Technology and Cybersecurity



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# Information Technology & Cybersecurity



<b>Computer Systems Analysts</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$92,764</b> Average Salary	<b>11.1%</b> Projected Growth (2021-2026)	<b>22%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>10,395</b> Employment (2021)	<b>5,507</b> Job Postings (2021)	<b>0.01</b> Automation Risk Score	<b>15-1211</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Systems Analysis</li> <li>• Business Systems Analysis</li> <li>• Business Analysis</li> <li>• Business Process</li> <li>• Business Systems</li> <li>• Software Development</li> <li>• Oracle</li> <li>• SQL</li> <li>• Project Management</li> <li>• Customer Service</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• IT Infrastructure Library (ITIL) Certification</li> </ul>			
<b>Computer User Support Specialists</b>	<b>Some college, no degree</b> Typical Entry-Level Education	<b>\$53,875</b> Average Salary	<b>9.8%</b> Projected Growth (2021-2026)	<b>56%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>15,410</b> Employment (2021)	<b>8,300</b> Job Postings (2021)	<b>0.65</b> Automation Risk Score	<b>15-1232</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Technical Support</li> <li>• Customer Service</li> <li>• Help Desk Support</li> <li>• IT Support</li> <li>• Repair</li> <li>• Customer Contact</li> <li>• Printers</li> <li>• Hardware and Software Installation</li> <li>• Microsoft Operating Systems</li> <li>• Microsoft Active Directory</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• IT Infrastructure Library (ITIL) Certification</li> <li>• Certified A+ Technician</li> <li>• CompTIA Network+</li> </ul>			
<b>Information Security Analysts</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$102,062</b> Average Salary	<b>20.2%</b> Projected Growth (2021-2026)	<b>16%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>3,610</b> Employment (2021)	<b>3,660</b> Job Postings (2021)	<b>0.21</b> Automation Risk Score	<b>15-1212</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Information Security</li> <li>• Information Systems</li> <li>• Network Security</li> <li>• Risk Management</li> <li>• Penetration Testing</li> <li>• Security Operations</li> <li>• Cryptography</li> <li>• Project Management</li> <li>• Python</li> <li>• Linux</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• SANS/GIAC Certification</li> <li>• Certified Information Systems Auditor (CISA)</li> <li>• Certified Information Systems Security Professional (CISSP)</li> </ul>			

# Information Technology & Cybersecurity



<b>Software Developers and Software Quality Assurance Analysts and Testers</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$105,172</b> Average Salary	<b>20.1%</b> Projected Growth (2021-2026)	<b>13%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>27,442</b> Employment (2021)	<b>24,387</b> Job Postings (2021)	<b>0.09</b> Automation Risk Score	<b>15-1256</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Software Development</li> <li>• Software Engineering</li> <li>• DevOps</li> <li>• Microsoft C#</li> <li>• JavaScript</li> <li>• Java</li> <li>• Python</li> <li>• SQL</li> <li>• Git</li> <li>• Scrum</li> </ul>								

<b>Web Developers and Digital Interface Designers</b>	<b>Associate's degree</b> Typical Entry-Level Education	<b>\$66,290</b> Average Salary	<b>14.1%</b> Projected Growth (2021-2026)	<b>21%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>3,347</b> Employment (2021)	<b>3,641</b> Job Postings (2021)	<b>0.21</b> Automation Risk Score	<b>15-1257</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Web Application Development</li> <li>• Front-end Development</li> <li>• Web Development</li> <li>• Software Development</li> <li>• Web Site Design</li> <li>• JavaScript</li> <li>• React Javascript</li> <li>• SQL</li> <li>• Git</li> </ul>								



# Manufacturing



# Manufacturing

<b>Computer Numerically Controlled Tool Operators</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$41,794</b> Average Salary	<b>8.7%</b> Projected Growth (2021-2026)	<b>55%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>1,237</b> Employment (2021)	<b>609</b> Job Postings (2021)	<b>0.86</b> Automation Risk Score	<b>51-9161</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Computer Numerical Control (CNC)</li> <li>• Machine Operation</li> <li>• Machining</li> <li>• Computerized Numerical Control Lathes</li> <li>• CNC Machine</li> <li>• Machinery</li> <li>• Lathes</li> <li>• Cleaning</li> <li>• Micrometers</li> <li>• Calipers</li> </ul>								
<b>First-Line Supervisors of Production and Operating Workers</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$67,435</b> Average Salary	<b>9.9%</b> Projected Growth (2021-2026)	<b>43%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>5,625</b> Employment (2021)	<b>1,875</b> Job Postings (2021)	<b>0.02</b> Automation Risk Score	<b>51-1011</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Scheduling</li> <li>• Supervisory Skills</li> <li>• Quality Assurance and Control</li> <li>• Cost Control</li> <li>• Packaging</li> <li>• Budgeting</li> <li>• Machinery</li> <li>• Occupational Health and Safety</li> <li>• Cleaning</li> <li>• Repair</li> </ul>								
<b>Industrial Production Managers</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$116,304</b> Average Salary	<b>9.6%</b> Projected Growth (2021-2026)	<b>17%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>2,253</b> Employment (2021)	<b>1,841</b> Job Postings (2021)	<b>0.03</b> Automation Risk Score	<b>11-3051</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Quality Management</li> <li>• Quality Assurance and Control</li> <li>• Scheduling</li> <li>• Production Management</li> <li>• Project Management</li> <li>• Process Improvement</li> <li>• Staff Management</li> <li>• Budgeting</li> <li>• Six Sigma</li> <li>• Key Performance Indicators (KPIs)</li> </ul>								

# Manufacturing

<b>Machinists</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$50,132</b> Average Salary	<b>14.7%</b> Projected Growth (2021-2026)	<b>29%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>3,128</b> Employment (2021)	<b>597</b> Job Postings (2021)	<b>0.65</b> Automation Risk Score	<b>51-4041</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Machining</li> <li>• Computerized Numerical Control Lathes</li> <li>• Lathes</li> <li>• Computer Numerical Control (CNC)</li> <li>• Grinders</li> <li>• Micrometers</li> <li>• Repair</li> <li>• Calipers</li> <li>• Machinery</li> <li>• Machine Tools</li> </ul>								

<b>Welders, Cutters, Solderers, and Brazers</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$46,526</b> Average Salary	<b>12.7%</b> Projected Growth (2021-2026)	<b>54%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>4,498</b> Employment (2021)	<b>927</b> Job Postings (2021)	<b>0.94</b> Automation Risk Score	<b>51-4121</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>• Welding</li> <li>• Mig and Tig Welding</li> <li>• Repair</li> <li>• Welding Equipment</li> <li>• Hand Tools</li> <li>• Grinders</li> <li>• Gas-metal Arc Welding (GMAW)</li> <li>• Power Tools</li> <li>• Arc Welding</li> <li>• Machinery</li> </ul> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>• Welding Certification</li> <li>• IPC Certification</li> <li>• AWS D1.1</li> </ul>								



# Transportation, Distribution & Logistics





# Transportation, Distribution & Logistics



<b>Automotive Body and Related Repairers</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$49,184</b> Average Salary	<b>12.3%</b> Projected Growth (2021-2026)	<b>57%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>2,469</b> Employment (2021)	<b>1,968</b> Job Postings (2021)	<b>0.91</b> Automation Risk Score	<b>49-3021</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Automotive Painting</li> <li>Painting</li> <li>Welding</li> <li>Power Tools</li> <li>Auto Repair</li> <li>Repair</li> <li>Lean Manufacturing</li> <li>Customer Service</li> <li>Cleaning</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Automotive Service Excellence (ASE) Certification</li> <li>I-CAR Certification</li> </ul>			
<b>Automotive Service Technicians and Mechanics</b>	<b>Postsecondary nondegree award</b> Typical Entry-Level Education	<b>\$44,579</b> Average Salary	<b>11.8%</b> Projected Growth (2021-2026)	<b>57%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>12,911</b> Employment (2021)	<b>6,628</b> Job Postings (2021)	<b>0.59</b> Automation Risk Score	<b>49-3023</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Repair</li> <li>Auto Repair</li> <li>Vehicle Maintenance</li> <li>Oil Changes</li> <li>Automotive Services</li> <li>Industry Knowledge</li> <li>Electrical Systems</li> <li>Tire Repairs</li> <li>Cleaning</li> <li>Customer Service</li> <li>Automotive Industry Knowledge</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Automotive Service Excellence (ASE) Certification</li> </ul>			
<b>First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$56,791</b> Average Salary	<b>14.0%</b> Projected Growth (2021-2026)	<b>35%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>8,486</b> Employment (2021)	<b>1,696</b> Job Postings (2021)	<b>0.22</b> Automation Risk Score	<b>53-1047</b> Occupation Code
<b>Top Skills:</b> <ul style="list-style-type: none"> <li>Inventory Management</li> <li>Inventory Control</li> <li>Supervisory Skills</li> <li>Customer Service</li> <li>Scheduling</li> <li>Forklift Operation</li> <li>Warehouse Operations</li> <li>Occupational Health and Safety</li> <li>Repair</li> <li>Shipping and Receiving</li> </ul>					<b>Top Certifications:</b> <ul style="list-style-type: none"> <li>OSHA Forklift Certification</li> </ul>			

# Transportation, Distribution & Logistics



<b>Logisticians</b>	<b>Bachelor's degree</b> Typical Entry-Level Education	<b>\$74,305</b> Average Salary	<b>22.0%</b> Projected Growth (2021-2026)	<b>41%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>2,875</b> Employment (2021)	<b>1,629</b> Job Postings (2021)	<b>0.01</b> Automation Risk Score	<b>13-1081</b> Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>Logistics</li> <li>Scheduling</li> <li>Procurement</li> <li>Purchasing</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Supply Chain Knowledge</li> <li>Inventory Management</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Supply Chain Management</li> <li>Customer Service</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Enterprise Resource Planning (ERP)</li> <li>SAP</li> </ul> </div> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>Certified in Production and Inventory Management (CPIM)</li> <li>Security Clearance</li> </ul> </div>								
<b>Transportation, Storage, and Distribution Managers</b>	<b>High school diploma or equivalent</b> Typical Entry-Level Education	<b>\$98,468</b> Average Salary	<b>14.2%</b> Projected Growth (2021-2026)	<b>35%</b> Entry Level <i>Percent of job postings calling for 0-2 Years of experience</i>	<b>2,248</b> Employment (2021)	<b>2,282</b> Job Postings (2021)	<b>0.59</b> Automation Risk Score	<b>11-3071</b> Occupation Code
<div> <div> <b>Top Skills:</b> <ul style="list-style-type: none"> <li>Scheduling</li> <li>Logistics</li> <li>Warehouse Management</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Budgeting</li> <li>Inventory Management</li> <li>Forklift Operation</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Customer Service</li> <li>Supervisory Skills</li> <li>Warehouse Operations</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>Inventory Control</li> </ul> </div> </div> <div> <b>Top Certifications:</b> <ul style="list-style-type: none"> <li>OSHA Forklift Certification</li> </ul> </div>								

# On the Horizon...

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- Semiconductor Manufacturing
- Autonomous Vehicles and Artificial Intelligence
- Renewable Energy
- Agricultural Technologies
- Aerospace and Defense
- Biosciences





# Sample Pathways to *H3* Occupations

*Integrating opportunities for learners to  
learn, earn, engage and succeed in  
pathways that combine secondary,  
post-secondary and work-based  
learning experiences*



# Construction Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit science and math courses</li> <li>Specific dual credit courses in foundations of construction</li> </ul>	<ul style="list-style-type: none"> <li>HVAC for residential systems – installation and repair</li> </ul>	<b>Heating, Air Conditioning and Refrigeration Mechanic and Installer (\$50,164*)</b>  Advancement Opportunities: <ul style="list-style-type: none"> <li><i>First Line Supervisor (\$69,854) – additional credentials and experience</i></li> </ul>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>OSHA 30 Hour General Industry Card</li> <li>Electrical systems</li> </ul>	<ul style="list-style-type: none"> <li>EPA certification</li> <li>North American Technician Excellence</li> </ul>	
Work-based Learning	<ul style="list-style-type: none"> <li>Project-based learning or internship</li> </ul>	<ul style="list-style-type: none"> <li>Internship or apprenticeship</li> </ul>	

## Additional pathways opportunities in Architecture & Construction

- Architecture*
- Mechanical, Electrical and Plumbing (in addition the HVAC)*

# Business Management & Administration Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit or AP core subject area courses</li> <li>Specific dual credit courses in business</li> </ul>	<ul style="list-style-type: none"> <li>Business management coursework</li> <li>Bachelor's degree</li> </ul>	<b>Management Analyst (\$94,538*)</b>  Advancement Opportunities: <ul style="list-style-type: none"> <li><i>General and Operations Managers (\$120,338) – Master's degree and/or experience</i></li> </ul>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>Microsoft Office Specialist</li> <li>Entrepreneurship and Small Business Certification</li> </ul>	<ul style="list-style-type: none"> <li>Data analysis</li> <li>SQL</li> </ul>	
Work-based Learning	<ul style="list-style-type: none"> <li>Internship</li> </ul>	<ul style="list-style-type: none"> <li>Internship</li> </ul>	

## Additional pathway opportunities in Business Administration, Sales & Marketing

- Sales*
- Marketing*
- Entrepreneurship*

# Education Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit or AP core subject area courses</li> </ul>	<ul style="list-style-type: none"> <li>Educator preparation coursework</li> <li>Additional subject-matter coursework</li> <li>Bachelor's degree</li> </ul>	<b>Secondary School Teacher (\$56,496*)</b>  Advancement Opportunities: <ul style="list-style-type: none"> <li><i>Principal – (\$85,785)</i></li> <li><i>Master's degree and AZ Principal Certificate</i></li> </ul>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>Microsoft Office Specialist</li> <li>Arizona Teacher's Aide</li> </ul>	<ul style="list-style-type: none"> <li>Arizona Teaching Certificate</li> </ul>	
Work-based Learning	<ul style="list-style-type: none"> <li>Project-based learning or internship</li> </ul>	<ul style="list-style-type: none"> <li>Student teaching or residency (depending on program)</li> </ul>	

## Additional pathway opportunities in Education

- Elementary and Middle School Teaching*
- Learning Support Professionals (School Counselors, General Admin Professional)*
- Specialized Teaching (English Language Learners, Special Education)*

# Engineering (STEM) Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit or AP science and math courses</li> <li>Specific dual credit courses in foundations of manufacturing</li> </ul>	<ul style="list-style-type: none"> <li>Advance mathematics coursework</li> <li>Associate's degree</li> </ul>	<b>Industrial Engineering Technologist or Technician (\$62,904*)</b>  Advancement Opportunities: <ul style="list-style-type: none"> <li><i>Mechanical Engineer (\$101,753) – Bachelor's degree</i></li> <li><i>Engineering Manager (\$159,889) – Bachelor's degree and Project Management certification</i></li> </ul>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>OSHA 30 Hour General Industry Card</li> </ul>	<ul style="list-style-type: none"> <li>Schematic diagrams</li> <li>Forklift certification</li> </ul>	
Work-based Learning	<ul style="list-style-type: none"> <li>Project-based learning or internship</li> </ul>	<ul style="list-style-type: none"> <li>Internship or apprenticeship</li> </ul>	

## Additional pathway opportunities in Engineering (STEM)

- Aerospace Engineering*
- Additional Engineering Options (Mechanical, Electrical, Chemical, Civil)*



# Financial Services Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit or AP core subject area courses</li> <li>Specific dual credit courses in introduction to business and accounting</li> </ul>	<ul style="list-style-type: none"> <li>Advanced accounting coursework</li> <li>Associate's degree</li> </ul>	<b>Bookkeeping, Accounting, and Auditing Clerk (\$45,305*)</b>  Advancement Opportunities: <ul style="list-style-type: none"> <li><i>Accountant or Auditor (\$76,406) – Bachelor's degree</i></li> <li><i>Tax Examiner, Collector or Revenue Agent (\$80,786) – Bachelor's degree</i></li> </ul>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>QuickBooks</li> <li>Microsoft Office Specialist</li> </ul>	<ul style="list-style-type: none"> <li>Payroll systems</li> </ul>	
Work-based Learning	<ul style="list-style-type: none"> <li>Project-based learning or internship</li> </ul>	<ul style="list-style-type: none"> <li>Internship</li> </ul>	

## Similar pathway opportunities in Financial Services

- Financial Advising and Management*
- Banking and Loan Administration*

# Information Technology Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit or AP science and math courses</li> <li>Specific dual credit courses in Information Technology</li> </ul>	<ul style="list-style-type: none"> <li>Advanced information technology coursework</li> </ul>	<b>Computer User Support Specialist (\$53,875*)</b>  Advancement Opportunities: <ul style="list-style-type: none"> <li><i>Operations Research Analysts (\$82,273) – Bachelor's degree and certification</i></li> <li><i>Computer Systems Analyst (\$92,764) - Bachelor's and certification</i></li> </ul>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>CompTIA IT Fundamentals</li> <li>CompTIA A+</li> </ul>	<ul style="list-style-type: none"> <li>CompTIA Network+</li> <li>CompTIA Security+</li> </ul>	
Work-based Learning	<ul style="list-style-type: none"> <li>Project-based learning or internship</li> </ul>	<ul style="list-style-type: none"> <li>Internship or apprenticeship</li> </ul>	

## Additional occupations in Information Technology & Cybersecurity

- Computer Networking Systems*
- Cybersecurity*

# Licensed Practical Nurse Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit or AP science and math courses</li> <li>Specific dual credit courses in gateway nursing services</li> </ul>	<ul style="list-style-type: none"> <li>Practical nursing theory and science courses</li> </ul>	<b>Licensed Practical Nurse (\$56,605*)</b>  Advancement Opportunities: <ul style="list-style-type: none"> <li><i>Registered Nurse (\$81,387) - Associate's or Bachelor's Degree</i></li> <li><i>Nurse Practitioner (\$116,328) – Master's degree and board certification</i></li> </ul>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>Basic Life Support</li> <li>Certified Nursing Assistant</li> </ul>	<ul style="list-style-type: none"> <li>LPN certification</li> </ul>	
Work-based Learning	<ul style="list-style-type: none"> <li>Clinical internship</li> </ul>	<ul style="list-style-type: none"> <li>Clinical hours</li> </ul>	

## Additional pathway opportunities in Health Sciences

- Diagnostic Services (Radiology, Medical Sonography, Surgical Technologists)*
- Dental Health Services*
- Public Health Administration*

# Manufacturing Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit or AP science and math courses</li> <li>Specific dual credit courses in foundations of manufacturing</li> </ul>	<ul style="list-style-type: none"> <li>Computer numerically controlled operation and programming courses</li> </ul>	<p><b>Machinist (\$50,132*)</b></p> <p>Advancement Opportunities:</p> <ul style="list-style-type: none"> <li><i>First Line Supervisor (\$67,435) – Experience and certification</i></li> <li><i>Industrial Production Manager (\$116,304) – Bachelor's degree</i></li> </ul>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>Certified SolidWorks Associate</li> <li>CNC Machining Level I</li> </ul>	<ul style="list-style-type: none"> <li>CNC Machining Level II</li> <li>Lathe</li> </ul>	
Work-based Learning	<ul style="list-style-type: none"> <li>Internship</li> </ul>	<ul style="list-style-type: none"> <li>Internship or apprenticeship</li> </ul>	

## Additional pathway opportunities in Manufacturing

- Semi-conductor Machine Operations
- Mechatronics
- Aerospace Manufacturing

*\*Average annual wage for Greater Phoenix Region*



# Transportation & Logistics Pathway

*Fast Track to Gain Knowledge, Skills and Experience*

	High School	Postsecondary	Employment
Academic	<ul style="list-style-type: none"> <li>Dual credit applied technical mathematics courses</li> <li>Specific dual credit courses in foundations of transportation and logistics</li> </ul>	<ul style="list-style-type: none"> <li>Logistics and supply chain management coursework</li> <li>Associate's degree</li> </ul>	<b>First Line Supervisor of Transportation and Material Moving (\$56,791*)</b>
Technical Skills and/or Credentials	<ul style="list-style-type: none"> <li>OSHA 30 Hour General Industry Card</li> </ul>	<ul style="list-style-type: none"> <li>Certified Logistics Technician</li> <li>Forklift certification</li> </ul>	Advancement Opportunities: <ul style="list-style-type: none"> <li><i>Logistician (\$74,305) – Bachelor's degree</i></li> <li><i>Transportation, Storage, and Distribution Manager (\$98,468) – Experience and certifications</i></li> </ul>
Work-based Learning	<ul style="list-style-type: none"> <li>Internship</li> </ul>	<ul style="list-style-type: none"> <li>Internship</li> </ul>	

## Similar pathway opportunities in Transportation & Logistics

- Automotive Service and Repair*
- Automotive Collision Repair*

# Pathway Needs

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We need to create H3 pathways that allow for a seamless transition to employment and post-secondary education with multiple on and off ramps





# Developing Robust Pathways to *H3* Occupations

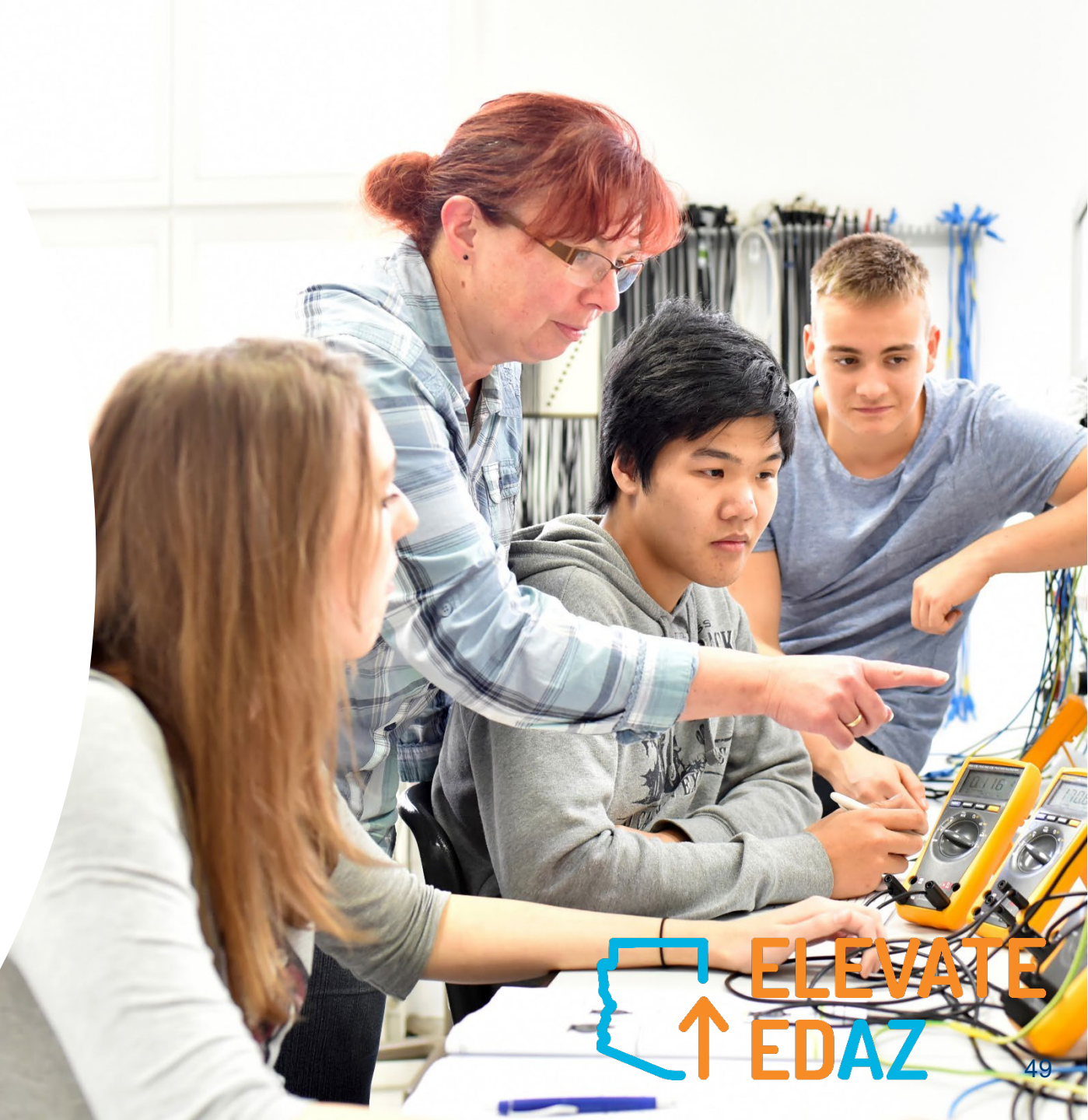
*Understanding which learner pathways  
offer the most return on investment for  
Greater Phoenix's communities,  
businesses, and economy*



# Next Steps for Business Partners

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1. ElevateEdAZ will coordinate engagement between business partners, K-12, and post-secondary education providers
2. Business Partners identify programs needing input and feedback from employers
3. Business Partners identify potential work-based learning opportunities for students





# Next Steps for Education Partners

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1. ElevateEdAZ will support partner schools to leverage data from the Pathway Analysis to identify new and strengthen existing local pathway offerings
2. Partner schools will apply for additional support and incentives to help them transition to new or strengthen offerings

