

LABOR MARKET ANALYSIS

FOR PROGRAM RECOMMENDATION



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

QUALITY CONTROL TECHNICIANS IN THE GREATER SACRAMENTO REGION

North (Greater Sacramento)
Center of Excellence

DECEMBER 2022

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SUMMARY

The North (Greater Sacramento) of Excellence for Labor Market Research prepared this report to provide a labor market analysis of educational supply and occupational demand for middle-skilled career pathways in the North (Greater Sacramento) subregion. This report aims to determine if demand in the local labor market is unmet by the supply from existing community college programs and other postsecondary training providers.

This report primarily focuses on training that leads to jobs in middle-skilled occupations - jobs that typically require education beyond a high school diploma but less than a bachelor's degree - but may include higher-skilled occupations for training pathways that lead to a bachelor's degree. Lowered skilled occupations are rarely considered in this analysis due to the lessened barriers for entry-level work, such as no formal education and on-the-job training requirements.

Key findings include:

- Over the next five years, quality control jobs are projected to have 291 annual openings in the North (Greater Sacramento) subregion.
- Wage data shows that quality control occupations earn an entry-level hourly wage of \$15.37 per hour.
- North (Greater Sacramento) community colleges and other postsecondary training providers do not offer training programs for quality control technicians.

Recommendations include:

- The North (Greater Sacramento) Center of Excellence recommends moving forward with new program development.

INTRODUCTION

The North (Greater Sacramento) Center of Excellence (COE) was asked to provide labor market information for a proposed program at a regional community college. This report focuses on the following Standard Occupational Classification (SOC) occupations and codes:

- These middle-skill occupations require more education and training beyond a high school diploma but less than a four-year degree:
 - Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)

A review of related programs revealed the following Taxonomy of Programs (TOP) title(s) and code(s) are appropriate for inclusion in this report:

- Industrial Quality Control (0956.80)

The corresponding Classification of Instructional Program (CIP) title(s) and code(s) are:

- Quality Control Technology/Technician (15.0702)

OCCUPATIONAL DEMAND

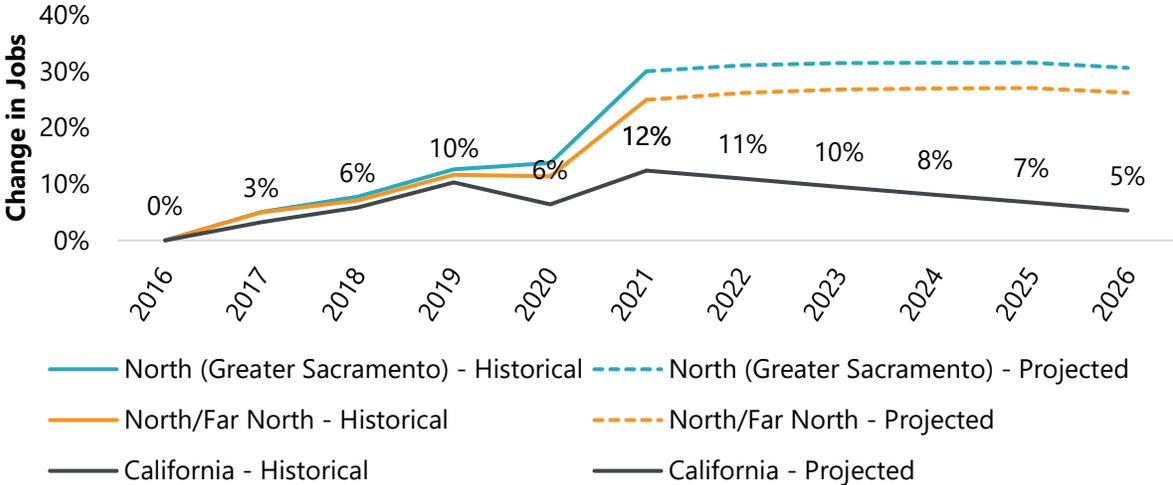
Exhibit 1 summarizes the five-year projected job growth for middle-skill and high-skill occupations in the North, North/Far North, and California.

Exhibit 1. Employment and projected demand, 2021-2026

Occupation	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	2021-2026 Annual Openings
Inspectors, Testers, Sorters, Samplers, and Weighers	2,381	2,392	11	0%	291
North (Greater Sacramento)	2,381	2,392	11	0%	291
Inspectors, Testers, Sorters, Samplers, and Weighers	3,054	3,085	31	1%	379
North/Far North	3,054	3,085	31	1%	379
Inspectors, Testers, Sorters, Samplers, and Weighers	62,532	58,595	(3,937)	(6%)	7,305
California	62,532	58,595	(3,937)	(6%)	7,305

Exhibit 2 compares the percent change in jobs between 2016 through 2021 and the projected changes through 2026. The rate of change is indexed to the total number of jobs in 2016.

Exhibit 2. Changes in employment, 2016-2026



WAGES

Exhibit 3 compares the entry-level, median, and experienced wages for the selected occupations to the North (Greater Sacramento) living wage¹ for a single adult (\$14.53 per hour) and a small family² (\$28.12 per hour).

Exhibit 3. Comparison of wages by occupation, 2021



JOB POSTINGS

This section analyzes recent data from online job postings (real-time LMI). Online job postings may provide additional insight into recent changes in the labor market that are not captured by historical trends.

The North COE identified 500 online job postings for Quality Control Technician jobs in the Greater Sacramento subregion. Job posting data comes from Lightcast (formerly Emsi Burning Glass Labor) and represents new listings posted online within the last year, from December 1, 2021, to November 30, 2022.

Occupations and Job Titles

Exhibit 4 details the number of online job postings for the selected occupations.

¹ Living wage is defined as the level of income a single adult with no children must earn to meet basic needs, including food, housing, transportation, healthcare, taxes, and other miscellaneous basic needs. Please note that the 25th-percentile and 75th-percentile hourly wages are used as proxy for entry-level and experienced-level wages.

² A small family is defined as a single adult and one school aged child (between the ages of 5 and 12 years).

Exhibit 4. Number of job postings by occupation

Occupation	Job Postings	Share of Job Postings
Inspectors, Testers, Sorters, Samplers, and Weighers	500	100%
Total Job Postings	500	100%

Exhibit 5 shows the top 10 job titles with the most job postings and the share. All job postings included a job title.

Exhibit 5. Top jobs titles

Job Title	Job Postings	Share of Job Postings
Quality Control Inspectors	89	18%
Quality Inspectors	84	17%
Product Testers	57	11%
Quality Technicians	40	8%
Quality Control Technicians	20	4%
Quality Control Associates	13	3%
Inspectors	11	2%
Quality Control Testers	9	2%
Sample Control Technicians	8	2%
Production Inspectors	6	1%

Employers

Exhibit 6 shows the top 10 employers with the most job postings for the selected occupations.

Exhibit 6. Employers with the most job postings

Employer	Job Postings	Share of Job Postings
American Consumer Panels	56	11%

Employer	Job Postings	Share of Job Postings
Siemens	19	4%
Jmax Properties	10	2%
PRIDE Industries	10	2%
Cepheid	8	2%
Mariani Nut Company	8	2%
Penumbra	8	2%
Eurofins Scientific	7	1%
Clark Pacific	7	1%
AECOM	6	1%

Certifications, Skills, and Experience

Exhibit 7 shows the most relevant certifications requested by employers for the selected occupations.

Exhibit 7. Most in-demand certifications

Certification	Job Postings	Share of Job Postings
(American Society for Quality) ASQ Certified	13	3%

Exhibit 8 shows the top 10 skills across three categories for the studied occupations: specialized, employability (or soft and human-centered), and technical skills.

Exhibit 8. Most in-demand skills

Top 10 Specialized Skills	Top 10 Employability Skills	Top 10 Technical Skills
Calipers	Quality Control	Microsoft Office
Auditing	Communications	Microsoft Excel
Micrometer	Detail Oriented	SAP Applications

Top 10 Specialized Skills	Top 10 Employability Skills	Top 10 Technical Skills
Coordinate Measuring Machine (CMM)	Management	Microsoft Outlook
Quality Management Systems	Quality Assurance	Microsoft PowerPoint
Good Manufacturing Practices	Operations	Microsoft Word
Product Inspection	Computer Literacy	Presentation Software
Quality Management	Customer Service	Database Software
Data Entry	Problem Solving	Microsoft Access
ISO 9000 Series	Lifting Ability	Operating Systems

Exhibit 9 shows employers' minimum level of education for job postings for the selected occupations.

Exhibit 9. Employer-preferred minimum education levels

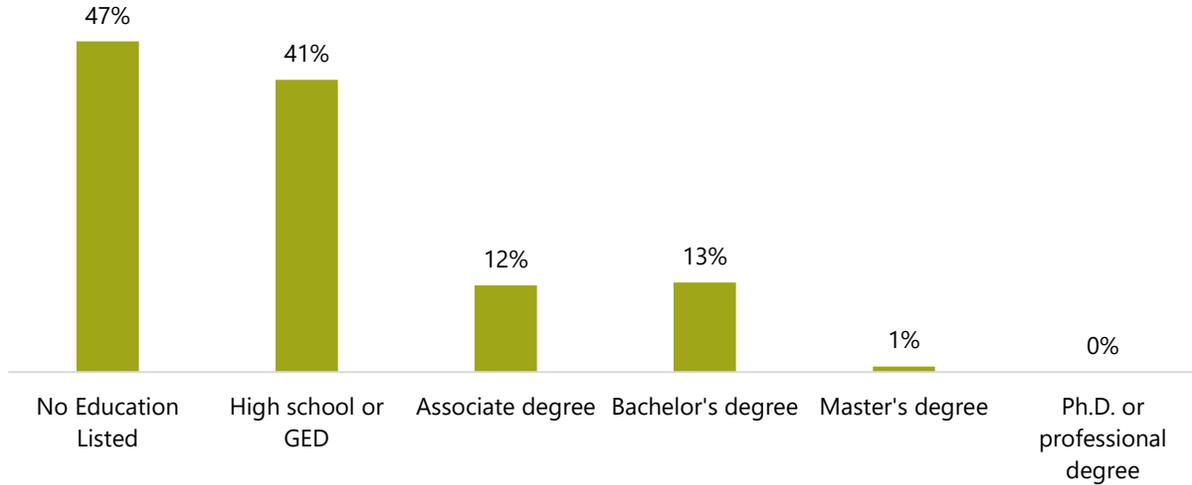
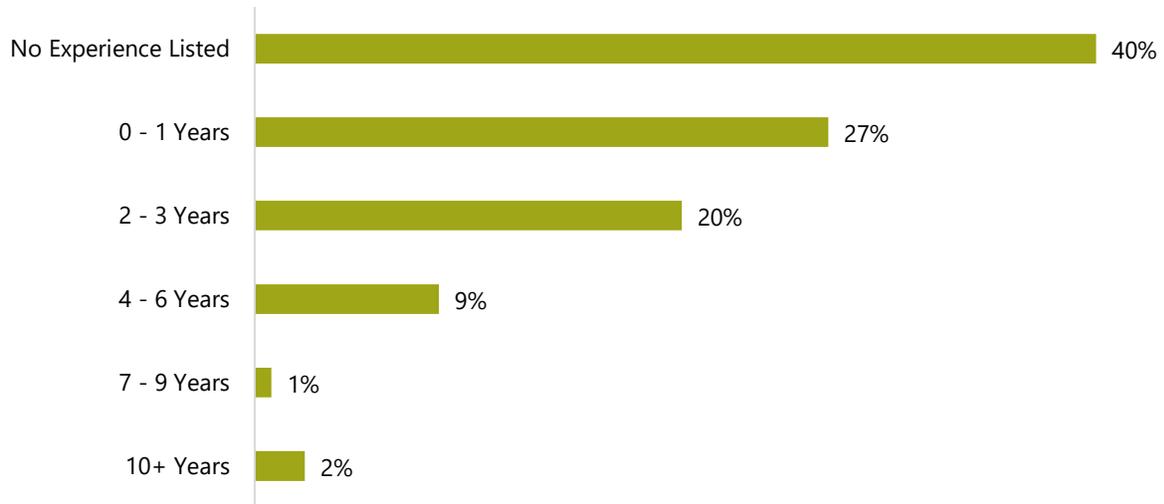


Exhibit 10 shows the experience levels required by employers for job postings for the selected occupations.

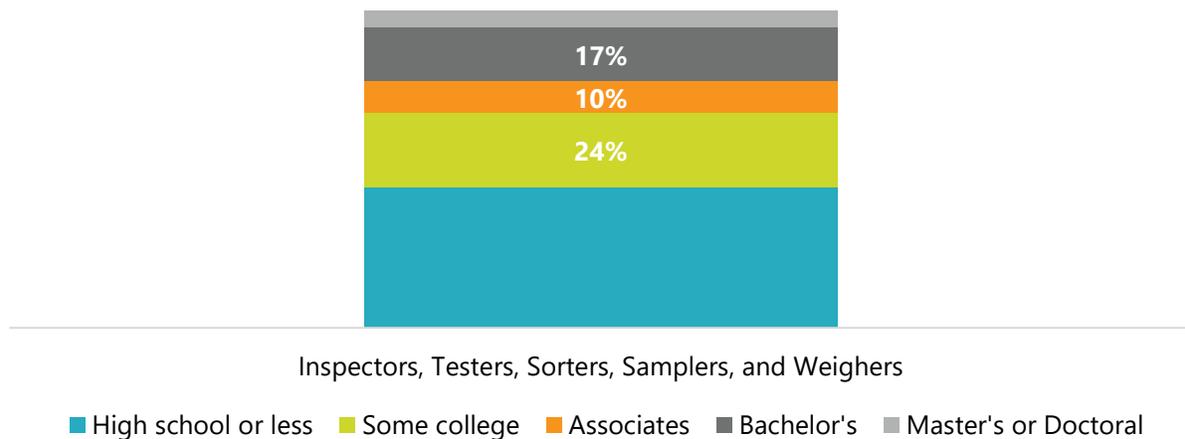
Exhibit 10. Employer-preferred experience levels



EDUCATION AND TRAINING

The U.S. Census Bureau collects education data from workers employed in occupations. Exhibit 11 shows the state-level educational attainment of the current workforce in the selected occupations.

Exhibit 11. California worker educational attainment for selected occupations, 2019



The Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education,

work experience in a related occupation, and typical on-the-job training to each occupation for which the BLS publishes projections data. Exhibit 12 shows the selected occupations' entry-level job requirements.

Exhibit 12. Typical education, work experience, and on-the-job training requirements

Occupation	Typical Entry-level Education	Work Experience Required	On-the-job Training Required
Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	None	Moderate-term on-the-job training

EDUCATIONAL SUPPLY

Educational supply for an occupation can be estimated by analyzing the number of awards issued in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. Exhibit 13 shows the TOP and CIP codes for educational programs related to the selected occupations.

Exhibit 13. TOP and CIP codes for training programs related to the selected occupations

TOP Programs and Codes	Aligned CIP Programs and Codes
Industrial Quality Control (0956.80)	Quality Control Technology/Technician (15.0702)

Community College Supply

North (Greater Sacramento) community colleges do not offer training programs under the Industrial Quality Control (0956.80) TOP code.

However, several community colleges in other areas of the state offer training in this area. Exhibit 14 lists these programs.

Exhibit 14. Industrial Quality Control Programs in California Community Colleges

California Community College	CCCCO Region	Program Title	Award
Antelope Valley	LA	Aeronautical Non-Destructive Inspection	Certificate (8<16 units)

De Anza	Bay Area	Quality Control Technician	Certificate (8<16 units)
Laney	Bay Area	Quality Control	Certificate (16<30 units)
Palomar	San Diego/Imperial	Quality Control/Inspection Technician	Certificate (8<16 units)
Santiago Canyon	OC	Operating Engineers, Special Inspector (Apprenticeship)	A.S. Degree

Other Postsecondary Supply

Local non-community college postsecondary training providers do not offer training programs under the Quality Control Technology/Technician (15.0702) CIP code.

FINDINGS

- This report focuses on one occupation in the quality control (QC) technician career pathway: inspectors, testers, sorters, samplers, and weighers (SOC 51-9061).
- The North (Greater Sacramento) subregion held 2,381 quality control jobs in 2021. These jobs are projected to remain stable, with little growth over the next five years.
- While the number of quality control jobs is projected to remain stable in the North (Greater Sacramento) subregion, these jobs are projected to decline by 6% across California. The overall loss of these jobs in California is driven by projected job losses in Los Angeles (-11%), Orange (-11%), Santa Clara (-8%), and San Diego (-5%) counties.
- Over the next five years, quality control jobs are projected to have 291 annual openings in the North (Greater Sacramento) subregion.
- Wage data shows that quality control occupations earn an entry-level hourly wage of \$15.37 per hour, which is above the single adult living wage of \$14.53 per hour.
- According to real-time labor market information, there were about 500 online job postings for quality control technicians between December 1, 2021, and November 30, 2022. There was an average of 42 job postings per month for quality control jobs over the last 12 months.
- Companies with the most job postings in the Greater Sacramento region were American Consumer Panels (n = 56 jobs postings), Siemens (n = 19), Jmax Properties (n = 10), and PRIDE Industries (n = 10). Staffing companies were mainly excluded from the results.
- Approximately 34% of incumbent workers in the studied occupation in California have educational attainment levels consistent with community college offerings (some college or associate degrees). Another 17% of workers hold a bachelor's degree.
- North (Greater Sacramento) community colleges do not offer training programs under the Industrial Quality Control (0956.80) TOP code. The nearest community college offering related training is in the Bay Area.
- Local non-community college postsecondary training providers do not offer training programs under the Quality Control Technology/Technician (15.0702) CIP code.

RECOMMENDATIONS

- Analysis of the supply gap shows that the region seems to have room for additional training related to quality control technicians.
 - There are 291 projected annual openings for quality control technicians in the Greater Sacramento area.
 - There are no training programs for quality control technicians in the Greater Sacramento area.
- The North (Greater Sacramento) Center of Excellence recommends moving forward with new program development.

New Program Recommendation		
Move forward with the new program	Proceed with caution	A new program is not recommended
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX A. METHODOLOGY AND SOURCES

This report identified Occupations using the Center of Excellence TOP-to-CIP-to-SOC crosswalk and O*Net OnLine. This report's findings were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi, and jobs posting data from Burning Glass.

Lightcast (Formerly EMSI/Burning Glass) 2022.4; QCEW Employees, Non-QCEW Employees, and Self-Employed. <https://www.economicmodeling.com/>. *Note: EMSI occupational employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors).*

Integrated Postsecondary Education Data System (IPEDS). National Center for Education Statistics. U.S. Department of Education. <https://nces.ed.gov/ipeds/>.

Labor Market Information Division. California Employment Development Department. <https://labormarketinfo.edd.ca.gov/>.

Management Information Systems (MIS) Data Mart. California Community Colleges Chancellor's Office. <https://datamart.cccco.edu/>.

O*NET OnLine. U.S. Department of Labor/Employment and Training Administration (DOL ETA). <https://www.onetonline.org/>.

Public Use Microdata Sample (PUMS). U.S. Census Bureau American Community Survey (ACS). <https://www.census.gov/programs-surveys/acs/microdata.html>

Self-Sufficiency Standard Tool for California. The University of Washington. <http://www.selfsufficiencystandard.org/>

"Taxonomy of Programs." California Community Colleges Chancellor's Office. June 2012, 6th Edition. <https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Educational-Services-and-Support/Academic-Affairs/What-we-do/Curriculum-and-Instruction-Unit/Files/TOPmanual6200909corrected12513pdf.ashx>

"TOP-CIP-SOC Crosswalk." Centers of Excellence for Labor Market Research. June 2021 Edition. <http://coecc.net/>

APPENDIX B. GLOSSARY OF KEY TERMS

Key Terms	Definition
Occupation	Occupation refers to professions, or careers, in the workforce. Occupations differ from jobs in that jobs show the number of positions held in a given occupation.
Jobs	<p>A job is any position where a worker provides labor for monetary compensation.</p> <p>Job numbers include employees (those who work for businesses) and proprietors (those who work for themselves). Full- and part-time jobs are included and counted equally (i.e., not adjusted to full-time equivalents). Data for jobs, or employment, are annual averages.</p>
Job Change	Job change is the net increase or decrease of jobs over a given timeframe.
Job Openings	<p>Job openings are the projected number of positions available for workers entering an occupation.</p> <p>Openings include growth and replacement jobs. Growth jobs are the positive change in the total number of workers employed. Replacement jobs are the estimates of new workers needed to replace workers permanently leaving the occupation.</p>
Wages	Wages, or compensation, show workers' percentile and average earnings in a given occupation. The 25th-percentile and 75th-percentile hourly wages are used as a proxy for entry-level and experienced-level wages.
Living Wage	The living wage is the level of income a single adult with no children must earn to meet basic needs. The living wage is calculated using basic levels of allowances for food, housing, transportation, healthcare, taxes, and other miscellaneous basic needs.
Educational Attainment	Educational attainment is the level of education achieved by workers in each occupation. The data includes workers aged 25 years and older.
Typical Entry-level Education	The education level generally required for employment in an occupation. It may differ from the actual educational levels attained by workers in any given occupation.
Work Experience Required	The level of prior experience a worker needs to enter a job in each occupation.
On-the-job Training Required	The level of on-the-job training a worker needs to obtain competency in each occupation.
Awards	Awards are the number of certificates and degrees conferred for a specific course of study each year. Awards counts "papers" and, as a result, may be greater than the actual number of students who complete a program.

COVID-19 Statement: This report includes employment projection data by EMSI. EMSI's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections. Currently, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on employment and jobs in the state and, in combination with input from local employers, may help validate current and future employment needs as depicted here.

Important Disclaimer: All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings; however, neither the Centers of Excellence, COE host District, nor California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges, or their representatives based upon components or recommendations contained in this study.

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**FOR MORE INFORMATION,
PLEASE CONTACT:**

Ebony J. Benzing, Research
Manager

North (Greater Sacramento)
Center of Excellence

Ebony.Benzing@losrios.edu