



Labor Market Analysis for Program Recommendation Non-Destructive Testing (NDT) Technician Occupations Foothill College

Prepared by the San Francisco Bay Center of Excellence for Labor Market Research

March 2023

Recommendation

Based on all available data, there appears to be an “undersupply” of Non-Destructive Testing (NDT) Technician workers compared to the demand for this cluster of occupations in the Bay region and in the Silicon Valley sub-region (Santa Clara counties). There is a projected annual gap of about 349 students in the Bay region and 98 students in the Silicon Valley Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0956.80 - Industrial Quality Control programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Foothill College and in the region.

This report profiles Non-Destructive Testing (NDT) Technician Occupations in the 12 county Bay region and in the Silicon Valley sub-region for a proposed new program at Foothill College. Labor market information (LMI) is not available at the eight-digit SOC Code level for Non-Destructive Testing Specialists (17-3029.01), therefore, the data shown in Tables 1 and 2 is for Engineering Technologists and Technicians, Except Drafters, All Other (at the six digit SOC level) and likely overstates demand for Non-Destructive Testing Specialists. Tables 3, 4, 6, 9, and 10 use job postings data from Burning Glass at the eight-digit SOC Code level for Non-Destructive Testing Specialists (17-3029.01).

- Engineering Technologists and Technicians, Except Drafters, All Other (17-3029):** All engineering technologists and technicians, except drafters, not listed separately.
 Entry-Level Educational Requirement: Associate’s degree
 Training Requirement: None
 Percentage of Community College Award Holders or Some Postsecondary Coursework: NA%

Occupational Demand

Table 1. Employment Outlook for Non-Destructive Testing (NDT) Technician Occupations in Bay Region

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Engineering Technologists and Technicians, Except Drafters, All Other	3,448	3,567	119	3%	1,744	349	\$23	\$26
Total	3,448	3,567	119	3%	1,744	349	\$23	\$26

Source: Lightcast 2022.3

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
------------	-----------	-----------	-------------	---------------	---------------------	-----------------	--------------------	--------------------

Bay Region includes: Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Non-Destructive Testing (NDT) Technician Occupations in Silicon Valley Sub-region

Occupation	2021 Jobs	2026 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Engineering Technologists and Technicians, Except Drafters, All Other	1,059	1,057	-1	-0%	490	98	\$23	\$32
Total	1,059	1,057	-1.4	0%	490	98	\$23	\$32

Source: Lightcast 2022.3

Silicon Valley Sub-Region includes: Santa Clara Counties

Job Postings in Bay Region and Silicon Valley Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (Feb. 2022 - Jan. 2023)

Occupation	Bay Region	Silicon Valley
Engineering Technologists and Technicians, Except Drafters, All Other	629	305

Source: Lightcast

Table 4a. Top Job Titles for Non-Destructive Testing (NDT) Technician Occupations for latest 12 months (Feb. 2022 - Jan. 2023) - Bay Region

Title	Bay	Title	Bay
Engineering Technicians	151	Hardware Engineering Technicians	8
Test Operators	34	Laser Technicians	8
Engineers	26	Simulation Engineers	7
Test Engineering Technicians	24	Technical Support Engineers	7
Process Engineering Technicians	12	Laboratory Technicians	5
Maintenance Engineering Technicians	11	Lead Engineers	5
Non-Destructive Testing Inspectors	9	Quality Engineering Technicians	5
Technical Solutions Engineers	9	Technical Lead Engineers	5
Equipment Engineering Technicians	8	Technical Support Managers	5

Source: Lightcast

Table 4b. Top Job Titles for Non-Destructive Testing (NDT) Technician Occupations for latest 12 months (Feb. 2022 - Jan. 2023) - Silicon Valley Sub-Region

Title	Silicon Valley	Title	Silicon Valley
Engineering Technicians	79	Radio Frequency Test Technicians	4
Test Operators	29	Semiconductor Engineers	4
Test Engineering Technicians	10	Data Entry Clerks	3
Maintenance Engineering Technicians	9	Engineering Operations Technicians	3
Hardware Engineering Technicians	8	HPC Engineers	3
Engineers	6	Laser Technicians	3
Process Engineering Technicians	6	Machine Learning Engineers	3
Technical Solutions Engineers	6	Technical Support Managers	3
Technical Support Engineers	5	Biomedical Engineering Technicians	2

Source: Lightcast

Industry Concentration

Table 5. Industries hiring Non-Destructive Testing (NDT) Technician Workers in Bay Region

Industry - 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2021)	Jobs in Industry (2026)	% Change (2021-26)	% Occupation Group in Industry (2022)
Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	418	481	15%	12%
Testing Laboratories	326	353	8%	9%
Research and Development in Biotechnology (except Nanobiotechnology)	279	353	27%	8%
Engineering Services	264	281	6%	8%
Federal Government, Civilian, Excluding Postal Service	259	252	-3%	7%
Temporary Help Services	241	256	6%	7%
Semiconductor and Related Device Manufacturing	116	121	4%	3%
Electronic Computer Manufacturing	103	108	5%	3%
Custom Computer Programming Services	80	91	14%	2%
Natural Gas Distribution	68	66	-3%	2%

Source: Lightcast 2022.3

Table 6. Top Employers Posting Non-Destructive Testing (NDT) Technician Occupations in Bay Region and Silicon Valley Sub-Region (Feb. 2022 - Jan. 2023)

Employer	Bay	Employer	Silicon Valley
Actalent	38	Aerotek	16
Tesla	31	Actalent	13
Aerotek	17	Apple	9
Cisco	10	Tesla	9
Apple	9	Applied Materials	8
Randstad	9	Cisco	8
San Francisco Public Utilities Commission	9	Danaher	7
Applied Materials	8	KLA	7
Danaher	8	Comtech Ef Data	5
Adecco	7	Adecco	4

Source: Lightcast

Educational Supply

There are no community colleges in the Bay Region issuing awards on average annually (last 3 years ending 2019-20) on TOP 0956.80 - Industrial Quality Control. There are no other CTE educational institutions in the Bay Region issuing awards on average annually (last 3 years ending 2019-20) on CIP 15.0702 - Quality Control Technology/Technician.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 349 annual openings for the Non-Destructive Testing (NDT) Technician occupational cluster and no annual (3-year average) awards for an annual undersupply of 349 students. In the Silicon Valley Sub-Region, there is also a gap with 98 annual openings and no annual (3-year average) awards for an annual undersupply of 98 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0956.80 - Industrial Quality Control

Metric Outcomes	Bay All CTE Programs	Foothill All CTE Programs	State 0956.80	Bay 0956.80	Silicon Valley 0956.80	Foothill 0956.80
Students with a Job Closely Related to Their Field of Study	74%	90%	71%	N/A	N/A	N/A
Median Annual Earnings for SWP Exiting Students	\$48,926	\$67,950	\$58,662	N/A	N/A	N/A
Median Change in Earnings for SWP Exiting Students	23%	44%	57%	N/A	N/A	N/A
Exiting Students Who Attained the Living Wage	50%	62%	70%	N/A	N/A	N/A

Metric Outcomes	Bay All CTE Programs	Foothill All CTE Programs	State 0956.80	Bay 0956.80	Silicon Valley 0956.80	Foothill 0956.80
-----------------	----------------------	---------------------------	---------------	-------------	------------------------	------------------

Source: Launchboard Strong Workforce Program Median of 2018 to 2021.

Skills and Education

Table 9. Top Skills for Non-Destructive Testing (NDT) Technician Occupations in Bay Region (Feb. 2022 - Jan. 2023)

Skill	Posting	Skill	Posting
Test Equipment	112	Instrumentation	41
Hand Tools	71	Electrical Wiring	39
Python (Programming Language)	66	New Product Development	39
Electronics	64	Oscilloscope	39
Automation	52	Tooling	35
Linux	50	Machining	34
Electromechanics	48	Data Analysis	33
Computer Science	47	Data Collection	33
Debugging	43	Manufacturing Processes	32
Data Acquisition	42	Process Improvement	29

Source: Lightcast

Table 10. Education Requirements for Non-Destructive Testing (NDT) Technician Occupations in Bay Region

Education Level	Job Postings	% of Total
High school or GED	101	22%
Associate degree	147	31%
Bachelor's degree & higher	219	47%

Source: Lightcast

Note: 47% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

Methodology

Occupations for this report were identified by use of job descriptions and skills listed in O*Net. Labor demand data is sourced from Lightcast occupation and job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CCCCO Data Mart and CTE Launchboard.

Sources

O*Net Online

Lightcast

CTE LaunchBoard www.calpassplus.org

Launchboard

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset
Living Insight Center for Community Economic Development
Chancellor's Office MIS system

Contacts

For more information, please contact:

- Leila Jamoosian, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (COE), leila@baccc.net
- John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, jcarrese@ccsf.edu or (415) 267-6544