

LABOR MARKET ANALYSIS

FOR PROGRAM RECOMMENDATION



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

RADIATION THERAPY TECHNICIANS IN THE GREATER SACRAMENTO REGION

North (Greater Sacramento)
Center of Excellence

January 2024

TABLE OF CONTENTS

Summary.....	3
Introduction.....	4
Occupational Demand.....	5
Wages	7
Job Postings.....	8
About Job Postings Analysis.....	8
Top Employers and Job Titles.....	8
Top Skills and Qualifications.....	9
Education and Training Requirements	11
Educational Supply.....	12
Community College Supply	12
Other Postsecondary Supply	12
Findings.....	13
Recommendations	14
Appendix A. Methodology and Sources.....	15
Appendix B. Glossary.....	16

If, for any reason, this document is not accessible or if you have specific needs for readability, please contact us, and we will do our utmost to accommodate you with a modified version. To make a request, contact Ebony J. Benzing by phone at (916) 563-3215 or by email at Ebony.Benzing@losrios.edu.

SUMMARY

The North (Greater Sacramento) Center of Excellence for Labor Market Research prepared this report to provide a labor market analysis of educational supply and occupational demand for middle-skilled careers 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 fewer on-the-job training requirements.

Key findings include:

- The North (Greater Sacramento) subregion held 83 radiation therapy-related jobs in 2022. These jobs are projected to increase by 13% over the next five years, adding 11 new jobs to the subregion by 2027.
- Over the next five years, radiation therapy-related occupations are projected to have six annual openings in the North (Greater Sacramento) subregion.
- Entry-level (25th percentile) wage data shows that the radiation therapy-related occupations included in this report earn \$64.89 to \$88.12 per hour, which is above the subregion's living wage of \$18.72 per hour. (See Appendix B for notes about the updated living wage).
- Between 2019 and 2022, no North (Greater Sacramento) community colleges or non-community college institutions conferred any awards in programs that have historically trained for the occupations included in this report.

Recommendations include:

- Due to the low demand for radiation therapy occupations, the North (Greater Sacramento) Center of Excellence recommends that community colleges exercise caution in developing new radiation therapy programs in the region.

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 usually less than a four-year degree:
 - Medical Dosimetrists (29-2036)
 - Radiation Therapists (29-1124)

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

- Radiation Therapy Technician (1226.00)

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

- Medical Radiologic Technology/Science - Radiation Therapist (51.0907)

OCCUPATIONAL DEMAND

Exhibit 1 summarizes the five-year projected job growth for the two radiation therapy-related occupations in North (Greater Sacramento)¹, North/Far North, and California.

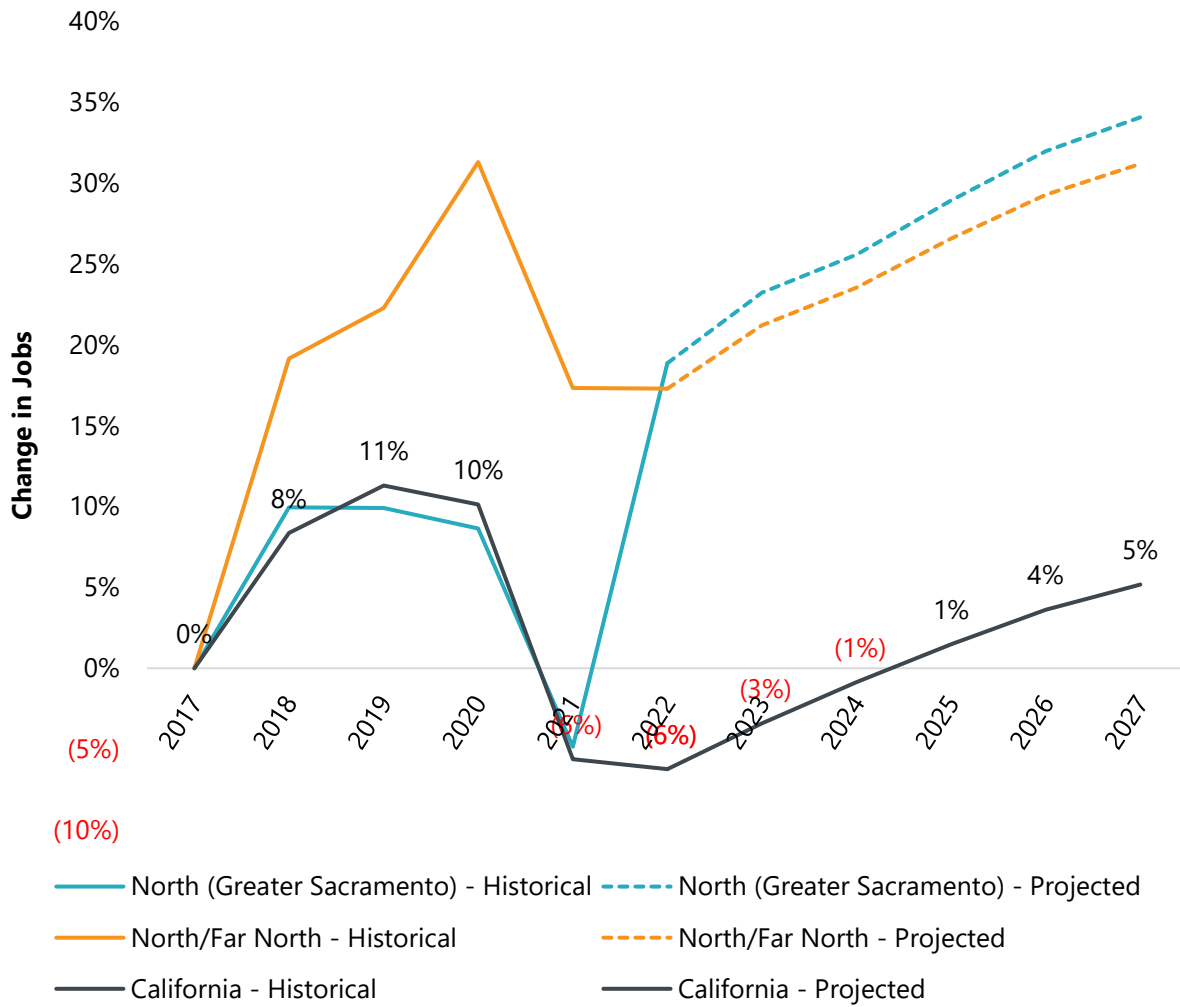
Exhibit 1. Employment and projected demand, 2022-2027

Occupation	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	2022-2027 Annual Openings
Radiation Therapists	68	76	8	11%	5
Medical Dosimetrists	15	18	3	20%	1
North (Greater Sacramento)	83	94	11	13%	6
Radiation Therapists	99	110	11	11%	6
Medical Dosimetrists	16	19	3	18%	2
North/Far North	115	129	14	12%	8
Radiation Therapists	1,053	1,164	110	10%	68
Medical Dosimetrists	183	223	40	22%	17
California	1,236	1,386	150	12%	85

¹ The North (Greater Sacramento) subregion covers seven counties, including El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba.

Exhibit 2 compares the net changes in jobs between 2017 through 2022 and the projected changes through 2027. The rate of change is indexed to the total number of jobs in 2017.

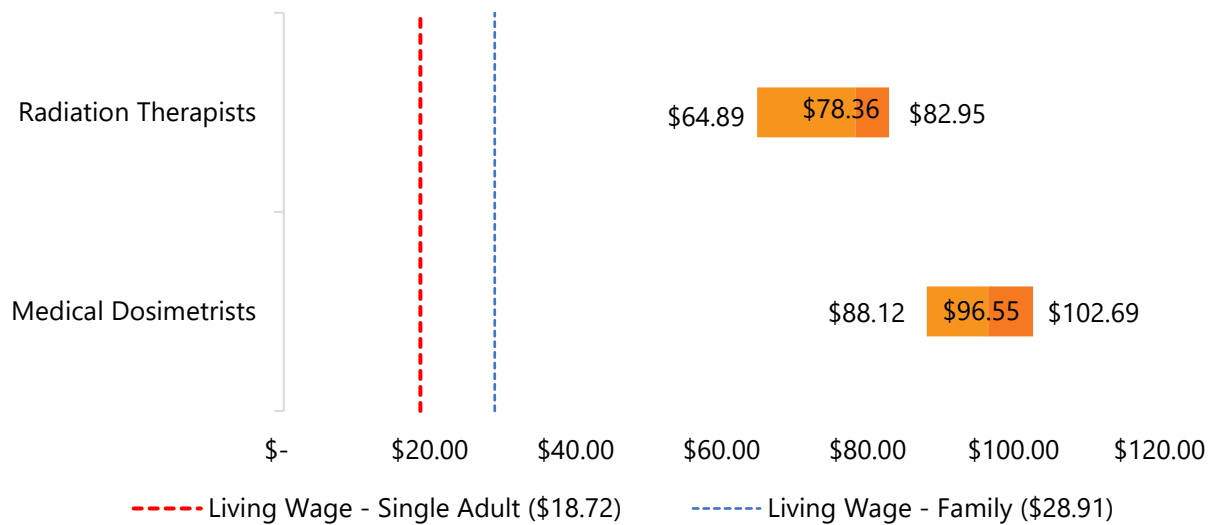
Exhibit 2. Changes in employment, 2017-2027



WAGES

Exhibit 3 compares the 25th percentile, median, and 75th percentile hourly wages for the two radiation therapy-related occupations to the Greater Sacramento living wage for one working adult (\$18.72 per hour) and a small family (\$28.91 per hour).^{2,3} The 25th and 75th percentile hourly wages are used to estimate entry-level and experienced worker wages.

Exhibit 3. Hourly wages by occupation, 2022



² Living wage is defined as the level of income one working 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.

³ A small family is defined as one working adult and one school aged child (between the ages of 5 and 12 years).

JOB POSTINGS

About Job Postings Analysis

This section analyzes recent data from online job postings. Online job postings may provide additional insight into recent changes in the labor market that are not captured by historical trends. However, job postings differ from labor market demand; demand is based on projected annual openings. Job postings should be used to inform community college curriculum development and identify potential employers for targeted experiential learning opportunities.

Please note several limitations to analyzing and interpreting online job postings. Employers may post a position multiple times to increase the number of job applicants. Job postings may remain online after a business chooses not to fill a position. Employers may advertise one posting to fill multiple vacancies. And not all jobs are posted online.

The North COE identified 29 online job postings for the selected occupations in the seven-county Greater Sacramento subregion. Job posting data comes from Lightcast (formerly Emsi Burning Glass) and represents unique advertisements newly posted online during the last 12 months, from February 2023 through January 2024.

Top Employers and Job Titles

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

Exhibit 4. Job postings by occupation

Occupation	Unique Job Postings	Share of Job Postings
Radiation Therapists	29	100%
Medical Dosimetrists	0	0%
Total Job Postings	29	100%

Exhibit 5 shows the top relevant job titles with the most job postings.

Exhibit 5. Top jobs titles

Job Title	Number of Job Postings
Radiation Therapists	19
Dosimetrists	5
Certified Medical Dosimetrists	1

Exhibit 6 shows the top relevant employers with the most job postings for the selected

occupations.

Exhibit 6. Top Employers

Employer	Number of Job Postings
CommonSpirit Health	11
University of California/UC Davis Health	9
Adventist Health	3
Kaiser Permanente	1
Berman Skin Institute	1

Top Skills and Qualifications

Exhibit 7 shows the top skills across three categories for the two radiation therapy-related occupations: specialized, essential, and software skills.⁴

Exhibit 7. Most in-demand skills

Specialized Skills	Common Skills	Software Skills
Oncology	Communication	Patient Management Systems
Radiation Therapy	Research	Microsoft Word
Treatment Planning	Quality Assurance	Microsoft Excel
Brachytherapy	Lifting Ability	Clinic Management Systems
Radiation Protection	Planning	Document-Oriented Databases
Radiology	Mathematics	Microsoft Office
Radiation Oncology	Prioritization	--
Intensity-Modulated Radiation Therapy	Tactfulness	--
Medical Prescription	Diplomacy	--
Pediatrics	Cooperation	--

⁴ Specialized skills are those primarily required to perform specific tasks in an occupation. Essential skills are typically related to employability. These are skills that are prevalent across many occupations, and include both interpersonal attributes and learned skills (aka "soft skills"). Software skills are specific to any software tool or programming component used to support a job.

Exhibit 8 shows the employer-preferred minimum levels of education for the two radiation therapy-related job postings in the Greater Sacramento subregion.⁵

Exhibit 8. Employer-preferred education

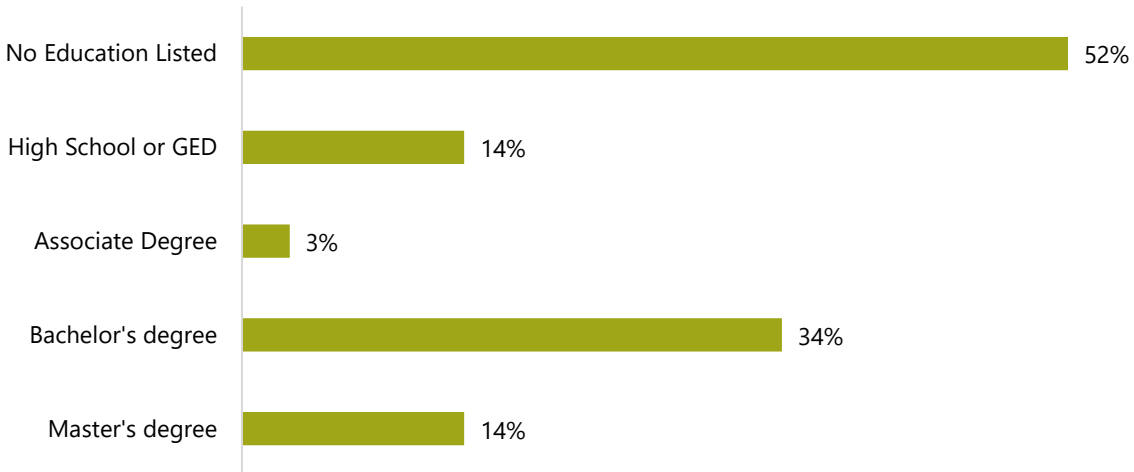
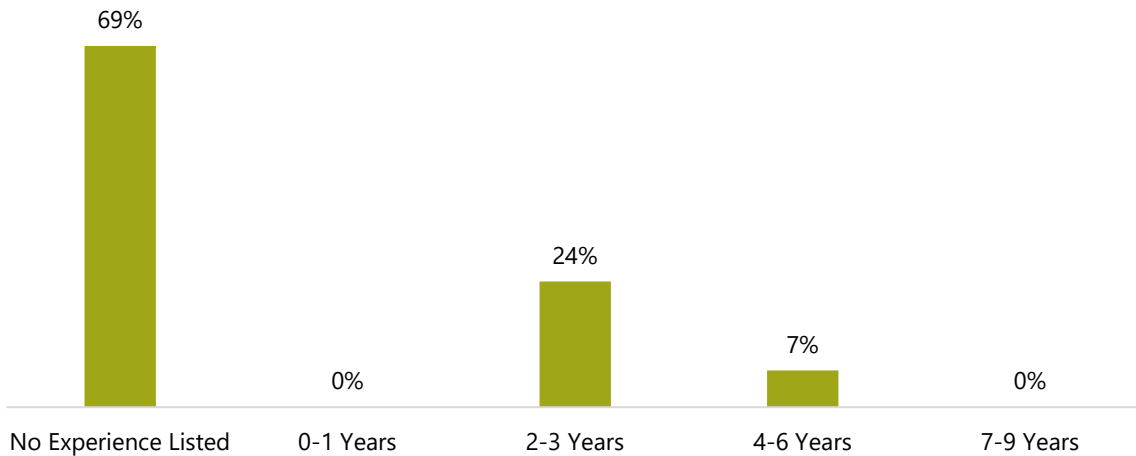


Exhibit 9 shows the employer-preferred minimum experience levels for the two radiation therapy-related job postings in the Greater Sacramento subregion.⁶

Exhibit 9. Employer-preferred job experience



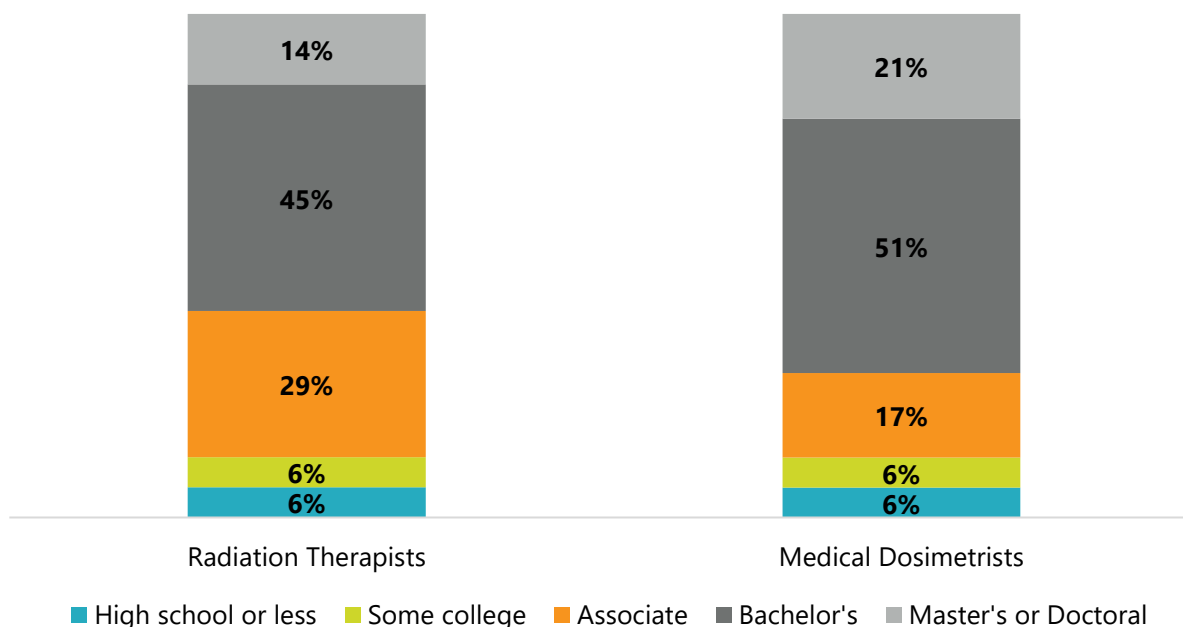
⁵ Employers may include more than one level of education as a hiring requirement in a job posting. As a result, the values in exhibit 8 may sum to greater than 100%.

⁶ Employers may include more than one level of experience as a hiring requirement in a job posting. As a result, the values in exhibit 9 may sum to greater than 100%.

EDUCATION AND TRAINING REQUIREMENTS

The U.S. Census Bureau collects data on the highest education level achieved by workers across all occupations. Exhibit 10 shows California's educational attainment of the current workforce in the selected occupations.

Exhibit 10. California educational attainment for radiation therapy-related occupations, 2021



The U.S. Bureau of Labor Statistics (BLS) uses a categorical system to assign typical entry-level education and job requirements to each occupation for which the BLS publishes projection data. These categories include entry-level education, work experience in a related occupation, and on-the-job training. Exhibit 11 shows the typical entry-level job requirements for each occupation included in this report.

Exhibit 11. Typical entry-level job requirements

Occupation	Entry-level Education Requirements	Work Experience Requirements	On-The-Job Training Requirements
Radiation Therapists	Associate degree	None	None
Medical Dosimetrists	Postsecondary nondegree award	None	None

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 12 shows the TOP and CIP codes for educational programs related to the two radiation therapy occupations included in this report.

Exhibit 12. TOP and CIP codes for training programs related to radiation therapy

TOP Programs and Codes	Aligned CIP Programs and Codes
Radiation Therapy Technician (1226.00)	Medical Radiologic Technology/Science - Radiation Therapist (51.0907)

Community College Supply

There were no programs offered in related TOP codes within the seven-county North (Greater Sacramento) subregion.

Other Postsecondary Supply

There were no programs offered in related CIP codes within the seven-county North (Greater Sacramento) subregion.

FINDINGS

This report focuses on the following two radiation therapy-related occupations: Medical Dosimetrists (29-2036) and Radiation Therapists (29-1124).

Occupational Demand

- The Greater Sacramento subregion held 83 jobs for the two radiation therapy-related occupations in 2022. These jobs are projected to increase by 13% over the next five years, adding 11 new jobs to the subregion by 2027.
- Over the next five years, radiation therapy-related occupations are projected to have six annual openings in the North (Greater Sacramento) subregion.
- Jobs for radiation therapy occupations are projected to grow slightly faster in the Greater Sacramento subregion (13%) than in California (12%).
- Over the next five years, radiation therapy-related occupations are projected to have six annual job openings in the Greater Sacramento subregion.

Wages

- Entry-level (25th percentile) wage data shows that the occupations included in this report earn \$64.89 to \$88.12 per hour, which is above the subregion's living wage of \$18.72 per hour. (See Appendix B for notes about the updated living wage).

Job Postings

- In the last 12 months, 29 relevant job postings for radiation therapy occupations were posted online.
- CommonSpirit Health, which includes Dignity Health, Mercy Medical Group, and the Woodland Clinic Medical Group, is the employer with the largest share of job postings (38%) related to radiation therapy occupations.

Education and Training Requirements

- The typical entry-level education for the occupations included in this report is either an associate degree or a postsecondary nondegree award. Additionally, 23% to 35% of incumbent workers in the studied occupations have educational attainment levels consistent with community college offerings (some college or associate degrees).
- Between 45% and 51% of incumbent workers in radiation therapy occupations have a bachelor's degree.

Postsecondary Supply

- No Greater Sacramento community colleges or other postsecondary training providers offer degrees or certificates in allied health radiation therapy programs.

RECOMMENDATIONS

- A comparison of annual openings to average annual awards in the Greater Sacramento subregion suggests an undersupply of skilled radiation therapy workers.
 - There were no programs offered in related TOP codes within the seven-county North (Greater Sacramento) subregion.
 - There are six projected annual openings for radiation therapy occupations.
- The North (Greater Sacramento) Center of Excellence recommends exercising caution in developing new regional radiation therapy programs. Though there seems to be a decent number of job advertisements across the subregion, projected annual job openings may be too few to support a regular, ongoing career education program.
- Community colleges interested in providing training in this field study should confirm existing and projected hiring needs with local employers.

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

"The Chancellor's Office Curriculum Inventory System (COCI)." California Community Colleges Curriculum Inventory (COCI), 2023. <https://coci2.ccctechcenter.org/>.

Glasmeier, Amy K. "Living Wage Calculator." Living Wage Calculator, 2023. <https://livingwage.mit.edu/>.

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/>.

Lightcast (Formerly EMSI/Burning Glass) 2023.3; 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)).

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/>.

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

Key Terms	Definition
Occupation	<p>Occupation refers to a category of jobs, careers, or professions that are similar regarding the work performed and the skills the workers possess. Workers who perform essentially the same tasks are in the same occupation, whether in the same industry. Some occupations are concentrated in a few industries, while others are found in many industries.</p> <p>Occupations differ from jobs in that jobs show the number of positions held in each occupation.</p>
Jobs	<p>A job is a specific instance of employment and includes 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>
Employment	<p>Employment refers to filled jobs, whether full- or part-time, temporary or permanent. The scope of "who" is counted as employed is noted in Appendix A. Methodology and Sources.</p>
Job Change	<p>Job change is the net increase or decrease of jobs over a given timeframe.</p>
Job Opening	<p>Job openings are the projected number of positions available for workers entering an occupation.</p> <p>Openings include growth and replacement job counts. Growth job counts are the positive change in the total number of workers employed. Replacement job counts are the estimates of new workers needed to replace workers permanently leaving the occupation.</p>
Percentile Wage (or wages)	<p>A percentile wage is the value of a wage at which a certain percentage of workers falls below. For example, a 25th percentile hourly wage of \$15.00 indicates that 25% of workers earn less than \$15.00, while 75% earn more. Percentile wages are specific to the geography shown in the report.</p> <p>The 25th-percentile and 75th-percentile hourly wages are used as a proxy for entry-level and experienced-level wages.</p>
Living Wage	<p>The living wage is the level of income a single, working adult with no children must earn to meet basic needs. The living wage is calculated using basic allowances for food, housing, transportation, healthcare, taxes, and other miscellaneous basic needs, and assumes full-time employment (40 hours per week, 52 weeks a year).</p> <p>Beginning in 2023-24, NFN COE adopted the MIT calculations for a living wage better aligned to the economic conditions following the pandemic. For additional information, please visit https://livingwage.mit.edu/.</p>

Key Terms	Definition
Educational Attainment	Educational attainment is the highest level of education achieved by workers in an occupation. The data include workers aged 25 years and older.
Typical Entry-level Education	<p>The education level most workers need to gain employment in an occupation. Categories range from "no formal educational credential" and "high school diploma or equivalent" to "doctoral or professional degree." The types most relevant to community training are "some college, no degree," "postsecondary nondegree award," and "associate degree."</p> <p>The typical entry-level education may differ from the actual educational levels attained by workers employed in an occupation.</p>
Typical Work Experience	The relevant prior experience a worker needs to gain employment in an occupation. Categories include "5 years or more", "less than five years," and "none."
Typical On-The-Job (OTJ) Training	The level of on-the-job training a worker needs to obtain for competency in the skills required for an occupation. Categories include "none," "short-term (1 month or less)," "moderate-term (more than one month but less than 12 months)," "long-term (more than 12 months)," "apprenticeship," and "internship/residency."
Awards	Awards are the number of certificates and degrees conferred for a specific course of study each year. Awards count "papers" and, as a result, may be greater than the number of students who complete a program.

Funding Acknowledgement: This report was made available with Strong Workforce Program funding from the North Far North Regional Consortium.

COVID-19 Statement: This report includes employment projection data produced by Lightcast (formerly EMSI). Employment projections are developed using models based on historical data, which in this set of projections covers the period through 2021. Most input data, therefore, precedes the pandemic. Employment projections are long-term projections intended to capture structural changes in the economy, not cyclical fluctuations. As such, projections data are not intended to capture the impacts of the recession that began in February 2020. Cyclical fluctuations, like recessions, impact projections when they become part of the historical data set.

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.

© 2024 California Community Colleges Chancellor's Office,
Centers of Excellence for Labor Market Research, Economic and
Workforce Development Program



CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

**FOR MORE INFORMATION,
PLEASE CONTACT:**

Ebony J. Benzing,
Interim Director
North (Greater Sacramento)
Center of Excellence

Ebony.Benzing@losrios.edu

(916) 563 - 3215