

LABOR MARKET ANALYSIS

FOR PROGRAM RECOMMENDATION



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

SURGICAL TECHNOLOGY IN THE GREATER SACRAMENTO REGION

North (Greater Sacramento)
Center of Excellence

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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 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 Greater Sacramento subregion held 704 surgical technology jobs in 2021. These jobs are projected to increase by 10% over the next five years, adding 73 new jobs to the subregion by 2026. Most jobs are for surgical technologists.
- Over the next five years, surgical technology jobs are projected to have 67 annual openings in the Greater Sacramento subregion. Most annual openings will be for surgical technologists.
- Wage data shows that surgical technology occupations earn \$15 to \$17 above the single adult living wage of \$14.53 per hour.
- There are no surgical technology programs offered in Greater Sacramento community colleges.

Recommendations include:

- The North (Greater Sacramento) Center of Excellence recommends Greater Sacramento community colleges move forward in developing new surgical technology training programs.

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:
 - Surgical Technologists (29-2055)
 - Surgical Assistants (29-9093)

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

- Surgical Technician (1217.00)

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

- Surgical Technology/Technician (51.0909)

OCCUPATIONAL DEMAND

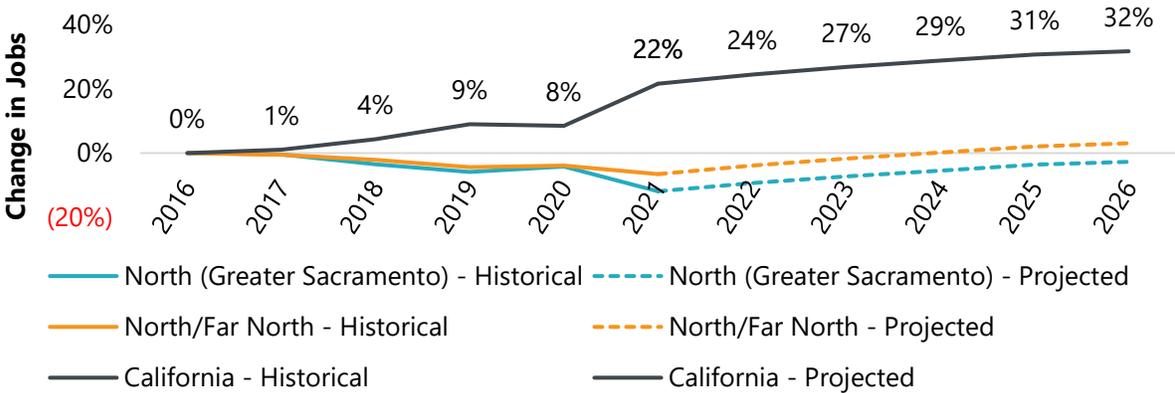
Exhibit 1 summarizes the five-year projected job growth for middle-skill and high-skill occupations in North (Greater Sacramento), North/Far North, and California.

Exhibit 1. Employment and projected demand, 2021-2026

Occupation	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	2021-2026 Annual Openings
Surgical Technologists	660	729	69	10%	63
Surgical Assistants	44	48	4	9%	4
North (Greater Sacramento)	704	777	73	10%	67
Surgical Technologists	890	983	93	10%	84
Surgical Assistants	62	67	5	8%	6
North/Far North	952	1,050	98	10%	90
Surgical Technologists	11,514	12,467	953	8%	1,032
Surgical Assistants	1,030	1,118	87	8%	93
California	12,544	13,584	1,040	8%	1,125

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.

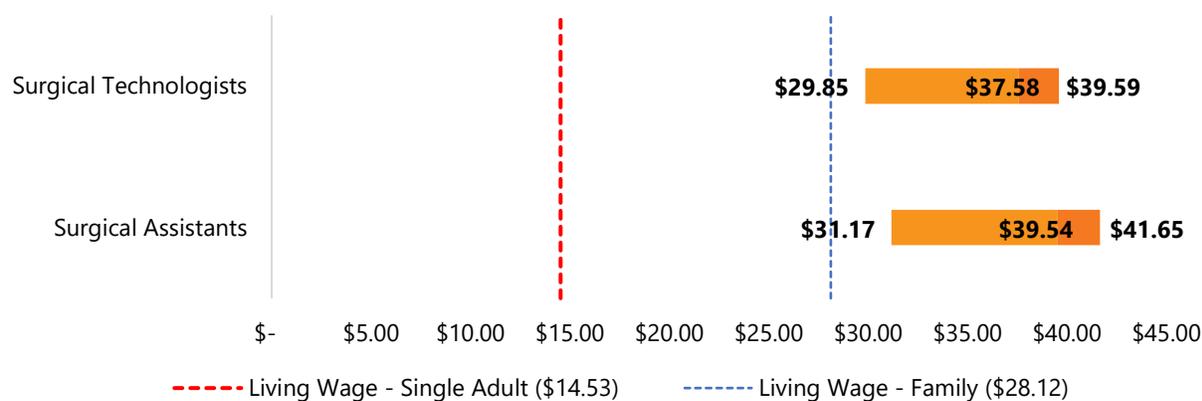
Exhibit 2. Changes in employment, 2016-2026



WAGES

Exhibit 3 compares the entry-level, median, and experienced wages for the selected occupations to the North (Greater Sacramento) living wage for a single adult (\$14.53 per hour) and a small family (\$28.12 per hour).^{1,2}

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 590 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 listings posted online within the last year, from March 1, 2022, to February 28, 2023.

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

Exhibit 4. Number of job postings by occupation

Occupation	Job Postings	Share of Job Postings
Surgical Technologists	539	91%
Surgical Assistants	51	9%

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).

Occupation	Job Postings	Share of Job Postings
Total Job Postings	590	100%

Exhibit 5 shows the top 10 relevant job titles with the most job postings.

Exhibit 5. Top jobs titles

Job Title	Job Postings	Median Posting Duration
Surgical Technicians	92	21 days
Surgical Scrub Technicians	87	20 days
Operating Room Surgical Technicians	68	20 days
Certified Surgical Technologists	53	32 days
Surgical Techs	51	29 days
Operating Room Technicians	47	25 days
Travel Surgical Technologists	32	29 days
Certified Surgical Technicians	20	22 days
Surgery Technicians	16	24 days
Surgical Assistants	15	32 days

Exhibit 6 shows the top 10 relevant employers with the most job postings for the selected occupations. Please note that staffing companies are excluded from the job posting results.

Exhibit 6. Employers with the most job postings

Employer	Job Postings	Median Posting Duration
Sutter Health/Sutter Medical Center	123	22 days
United Surgical Partners International	71	20 days

Employer	Job Postings	Median Posting Duration
CommonSpirit Health	36	14 days
Vivian Health	21	32 days
UC Davis Health/UC Davis	46	19 days
Kaiser Permanente	15	21 days
Medely	13	45 days
Tenet Healthcare	11	19 days
Medus Healthcare	5	22 days
Geisinger Health System	5	20 days

Exhibit 7 shows the top 10 skills across three categories for the studied occupations: specialized, essential, and software skills.³

Exhibit 7. Most in-demand skills

Top 10 Specialized Skills	Top 10 Essential Skills	Top 10 Software Skills
Surgery	Communications	Microsoft Excel
Operating Room (OR)	Management	Microsoft Outlook
Surgical Procedures	Emergency Procedures	Microsoft Office
Asepsis	Prioritization	Business Software
Surgical Technology	Detail Oriented	Operating Systems
Anatomy	Customer Service	Pyxis MedStation (Medication Dispensing Software)
Sterilization	Operations	LAMP (Software Bundle)
Surgical Instruments	Time Management	Database Software

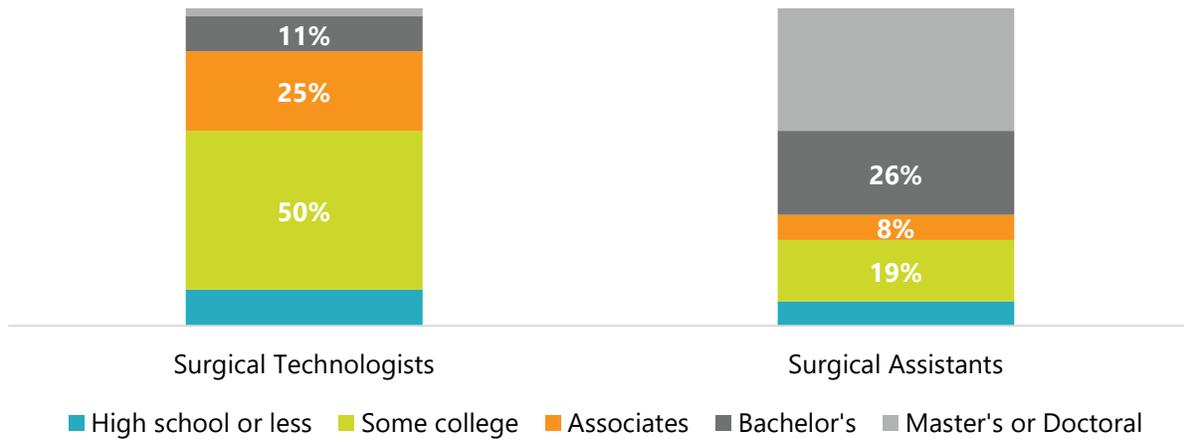
³ Specialized skills are those primarily required to perform specific tasks in an occupation. Essential skills are typically related to employability. These are skills that are prevalent across many occupations, and include both interpersonal attributes and learned skills (aka “soft skills”). Software skills are specific to any software tool or programming component used to support a job.

Top 10 Specialized Skills	Top 10 Essential Skills	Top 10 Software Skills
Nursing Care	Organizational Skills	Microsoft Word
Endoscopy	Ability To Meet Deadlines	Epic EMR

EDUCATION AND TRAINING

The U.S. Census Bureau collects data on the highest education level achieved by workers across all occupations. Exhibit 11 shows California's educational attainment of the current workforce in the selected occupations.

Exhibit 11. California educational attainment for selected occupations, 2019



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 12 shows the selected occupations' typical entry-level education and job requirements.

Exhibit 12. Typical entry-level education and job requirements

Occupation	Typical Entry-level Education	Work Experience Required	On-the-job Training Required
Surgical Technologists	Postsecondary nondegree award	None	None
Surgical Assistants	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 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
Surgical Technician (1217.00)	Surgical Technology/Technician (51.0909)

Community College Supply

No community college surgical technician (TOP code 1217.00) programs exist in the Greater Sacramento area.

Other Postsecondary Supply

Exhibit 14 compares the average number of degrees that non-community college training providers conferred in the Greater Sacramento subregion over the last three academic years. Please note that non-community college data lags by one year.

Exhibit 16. Other postsecondary awards by program

Program - CIP Code	College	Annual Awards 2018-19	Annual Awards 2019-20	Annual Awards 2020-21	3-Yr Annual Awards Average
Surgical Technology/Technician (51.0909)	Carrington College – Citrus Heights	0	29	2	10
	San Joaquin Valley College – Rancho Cordova	0	21	23	15
	Grand Total	0	50	25	25

FINDINGS

- This report focuses on two occupations in the surgical technology career pathway: surgical technologists and surgical assistants.
- The Greater Sacramento subregion held 704 surgical technology jobs in 2021. These jobs are projected to increase by 10% over the next five years, adding 73 new jobs to the subregion by 2026.
 - Surgical technologist jobs make up most of Sacramento's surgical technology jobs. Ninety-four percent of the region's jobs are held by surgical technologists, with a projected 10% growth over the next five years.
- Surgical technology jobs are projected to grow faster in the Greater Sacramento subregion than in California.
- Over the next five years, surgical technology jobs are projected to have 67 annual openings in the Greater Sacramento subregion.
 - Most annual openings – 63 – will be for surgical technologists.
- Wage data shows that surgical technology occupations earn \$15 to \$17 above the single adult living wage of \$14.53 per hour.
- According to real-time labor market information, there were about 590 online job postings for surgical technology occupations between March 1, 2022, and February 28, 2023. Online job postings were concentrated among surgical technologists, with 538 postings.
- Between 27% and 75% of incumbent workers in surgical technology occupations have educational attainment levels consistent with community college offerings (some college or associate degrees).
- There are no surgical technology programs offered in Greater Sacramento community colleges.
- Local non-community college postsecondary training providers also offer training related to the studied occupations. Between 2018-19 and 2020-21, non-community college training providers conferred an average of 25 awards in surgical technology programs over the last three years. Please note that non-community college awards data often lags by one year.

RECOMMENDATIONS

- Based on a comparison between average annual awards and projected annual job openings, the Greater Sacramento subregion seems to have an undersupply of workers in surgical technology jobs.
 - Other postsecondary training providers issued an average of 25 awards over the last three years.
 - There are 67 projected annual openings for surgical technology jobs.
 - Greater Sacramento community colleges do not offer training programs in surgical technology.
- The North (Greater Sacramento) Center of Excellence recommends that community colleges move forward in developing new programs related to surgical technology.

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. DATA 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) 2022.3; 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).*

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. OCCUPATION AND PROGRAM DEFINITIONS

Occupations

Surgical Technologists (29-2055)

Assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. May help set up operating room, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and other supplies to surgeons and surgeons' assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments.

Surgical Assistants (29-9093)

Assist in operations, under the supervision of surgeons. May, in accordance with state laws, help surgeons to make incisions and close surgical sites, manipulate or remove tissues, implant surgical devices or drains, suction the surgical site, place catheters, clamp or cauterize vessels or tissue, and apply dressings to surgical site.

TOP Code Programs

Surgical Technician (1217.00)

Procedures, skills, and use of equipment to assist in surgery.

CIP Code Programs

Surgical Technology/Technician (51.0909)

A program that prepares individuals, under the supervision of physicians and surgical nurses, to maintain, monitor, and enforce the sterile field and adherence to aseptic technique by preoperative, surgical team, and postoperative personnel. Includes instruction in instrument and equipment sterilization and handling, surgical supplies management, wound exposure and closure, surgical computer and robot operation and monitoring, maintenance of hemostasis, and patient and team scrubbing.

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 projects 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.

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Centers of Excellence for Labor Market Research, Economic and
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