

LABOR MARKET ANALYSIS

FOR PROGRAM RECOMMENDATION



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH

BOOKKEEPING AND ACCOUNTING IN THE GREATER SACRAMENTO REGION

North (Greater Sacramento)
Center of Excellence

FEBRUARY 2023

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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 28,022 bookkeeping and accounting jobs in 2021. These jobs are projected to increase by 3% over the next five years, adding 726 new jobs to the subregion by 2026.
- Over the next five years, bookkeeping and accounting jobs are projected to have 2,982 annual openings in the Greater Sacramento subregion.
- Wage data shows that bookkeeping and accounting occupations earn \$3 to \$16 above the single adult living wage of \$14.53 per hour.
- Awards data analysis shows that North (Greater Sacramento) training providers conferred an average of 419 awards (certificates and associate degrees) in accounting programs over the last three academic years.

Recommendations include:

- The North (Greater Sacramento) Center of Excellence recommends moving forward with new program development and modifying existing 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:
 - Bookkeeping, Accounting, and Auditing Clerks (43-3031)
 - Payroll and Timekeeping Clerks (43-3051)
 - Tax Preparers (13-2082)
- Students who transfer and earn a four-year degree could pursue the following high-skill occupations:
 - Accountants and Auditors (13-2011)

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

- Accounting (0502.00)

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

- Accounting (52.0301)
- Accounting Technology/Technician and Bookkeeping (52.0302)

OCCUPATIONAL DEMAND

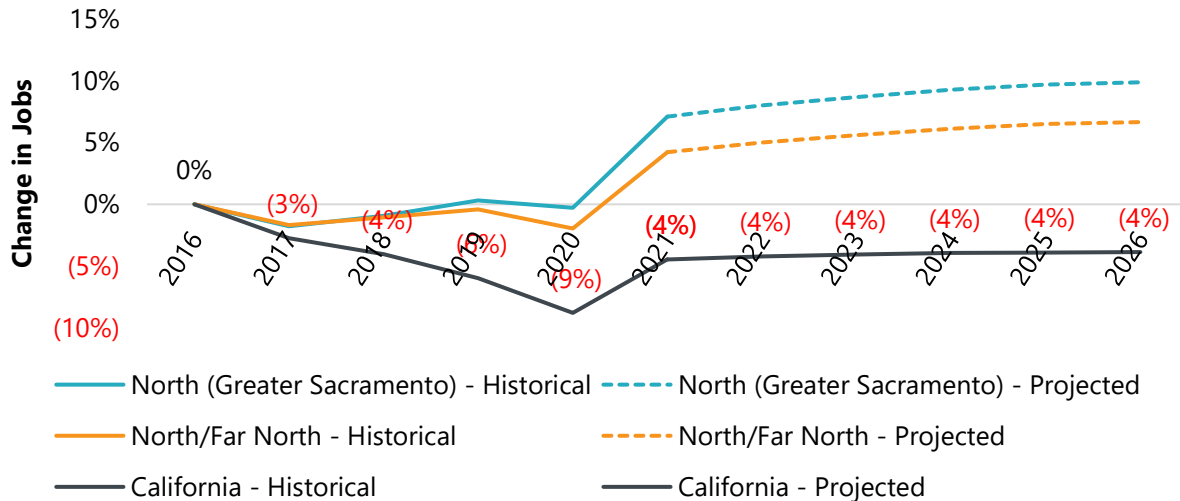
Exhibit 1 summarizes the five-year projected job growth for middle-skill and high-skill occupations in North (Greater Sacramento), North/Far North, and California.

Exhibit 1. Employment and projected demand, 2021-2026

Occupation	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	2021-2026 Annual Openings
Bookkeeping, Accounting, and Auditing Clerks	12,234	12,439	205	2%	1,412
Payroll and Timekeeping Clerks	2,184	2,075	(108)	(5%)	220
Tax Preparers	616	645	29	5%	76
Accountants and Auditors	12,988	13,588	600	5%	1,275
North (Greater Sacramento)	28,022	28,747	726	3%	2,982
Bookkeeping, Accounting, and Auditing Clerks	16,279	16,486	206	1%	1,868
Payroll and Timekeeping Clerks	2,555	2,413	(142)	(6%)	256
Tax Preparers	780	807	27	3%	95
Accountants and Auditors	14,756	15,467	711	5%	1,455
North/Far North	34,371	35,172	802	2%	3,674
Bookkeeping, Accounting, and Auditing Clerks	192,448	189,708	(2,740)	(1%)	21,581
Payroll and Timekeeping Clerks	21,169	19,760	(1,409)	(7%)	2,106
Tax Preparers	14,067	15,153	1,087	8%	1,856
Accountants and Auditors	174,278	179,861	5,583	3%	16,642
California	401,962	404,482	2,521	1%	42,185

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.

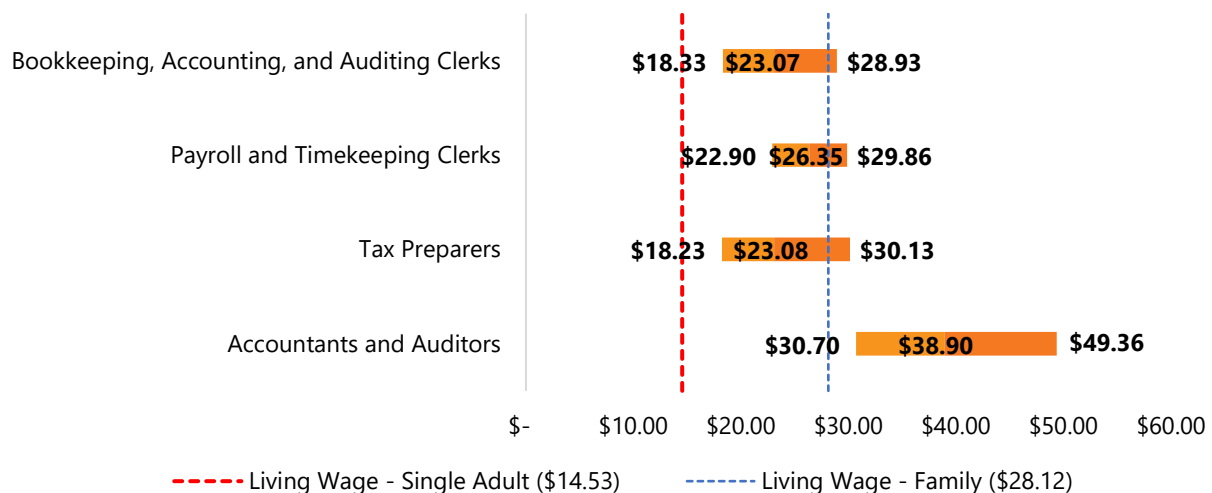
Exhibit 2. Changes in employment, 2016-2026



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



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).

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 7,530 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 January 1, 2022, to December 31, 2022.

Occupations and Job Titles

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
Bookkeeping, Accounting, and Auditing Clerks	3,407	45%
Accountants and Auditors	3,320	44%
Payroll and Timekeeping Clerks	646	9%
Tax Preparers	157	2%
Total Job Postings	7,530	100%

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

Exhibit 5. Top jobs titles

Job Title	Job Postings	Share of Job Postings
Accountants	380	5%
Accounts Payable Specialists	214	3%
Staff Accountants	210	3%
Payroll Specialists	204	3%
Bookkeepers	202	3%
Accounting Officers	200	3%

Job Title	Job Postings	Share of Job Postings
Account Trainees	178	2%
Accounting Clerks	170	2%
Accounts Receivable Specialists	161	2%
Accounting Assistants	154	2%

Employers

Exhibit 6 shows the top 10 relevant 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
KPMG	303	4%
State of California	190	3%
California State Controller's Office	124	2%
California Public Utilities Commission	114	2%
Deloitte	92	1%
Intuit	85	1%
Sacramento Technology Group	69	1%
Moss Adams	56	1%
University of California	55	1%
Crowe	52	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
Certified Public Accountant	416	6%
Certified Accounting Technician	157	2%
Financial Accounting Standards Board (FASB) Certified	44	1%

Exhibit 8 shows the top 10 skills across three categories for the studied occupations: specialized, essential, and software skills.³

Exhibit 8. Most in-demand skills

Top 10 Specialized Skills	Top 10 Essential Skills	Top 10 Software Skills
Accounting	Communications	Microsoft Excel
Auditing	Management	Microsoft Office
Accounts Payable	Microsoft Excel	Microsoft Outlook
Financial Statements	Detail Oriented	QuickBooks (Accounting Software)
Invoicing	Customer Service	Accounting Software
Accounts Receivable	Research	Microsoft Word
Finance	Writing	Microsoft PowerPoint
Bookkeeping	Microsoft Office	Payroll Systems
Generally Accepted Accounting Principles	Problem-Solving	SAP Applications

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
General Ledger	Operations	Microsoft Access

Exhibit 9 shows the minimum level of education requirements for related job postings in the Greater Sacramento subregion.⁴

Exhibit 9. Employer-preferred job candidate education levels

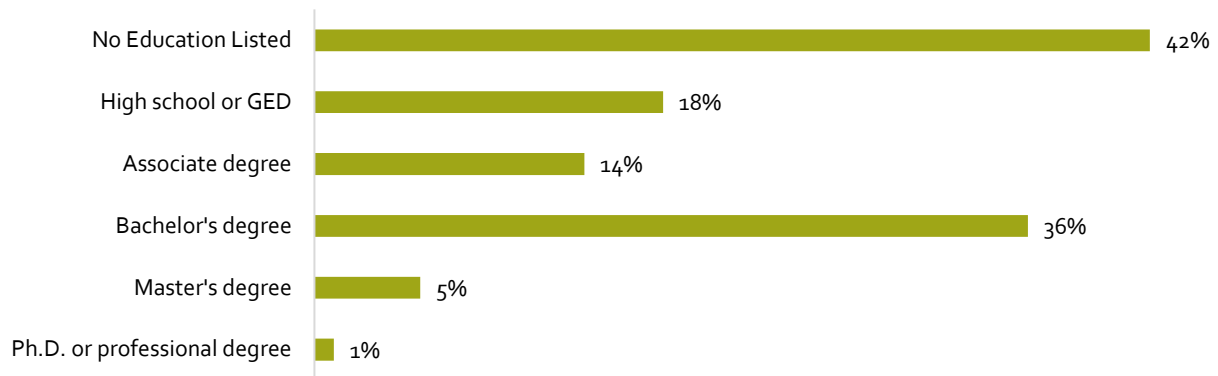
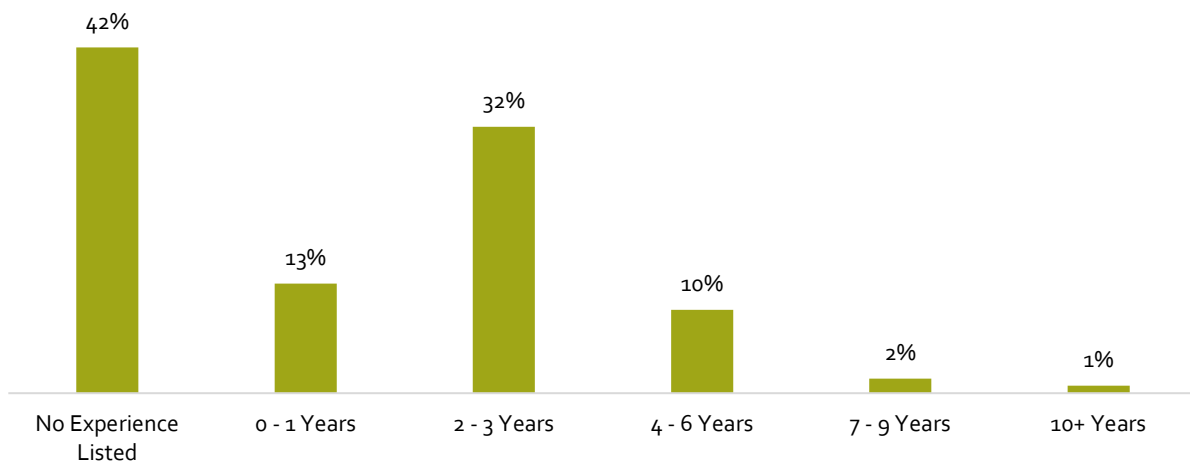


Exhibit 10 shows the experience levels required by employers for job postings for the selected occupations.⁵

Exhibit 10. Employer-preferred job candidate experience levels



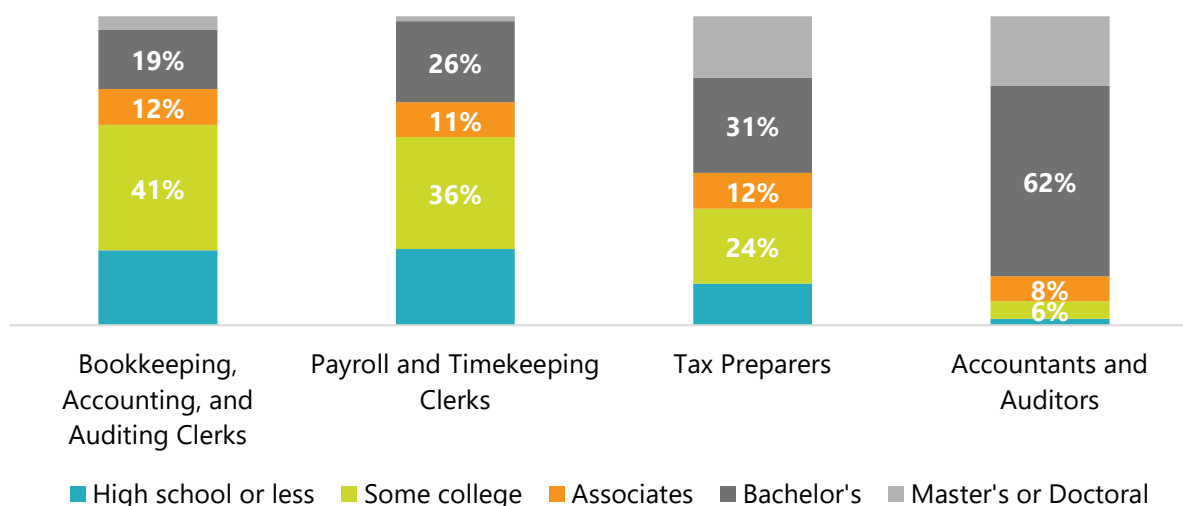
⁴ Employers may include more than one level of education as a hiring requirement in a job posting. As a result, the values in exhibit 9 may sum to greater than 100%.

⁵ Employers may include more than one level of experience as a hiring requirement in a job posting. As a result, the values in exhibit 10 may sum to greater than 100%.

EDUCATION AND TRAINING

The U.S. Census Bureau collects data on the highest level of education achieved by workers employed 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
Bookkeeping, Accounting, and Auditing Clerks	Some college, no degree	None	Moderate-term on-the-job training
Payroll and Timekeeping Clerks	High school diploma or equivalent	None	Moderate-term on-the-job training
Tax Preparers	High school diploma or equivalent	None	Moderate-term on-the-job training
Accountants and Auditors	Bachelor's degree	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
Accounting (0502.00)	Accounting (52.0301) Accounting Technology/Technician and Bookkeeping (52.0302)

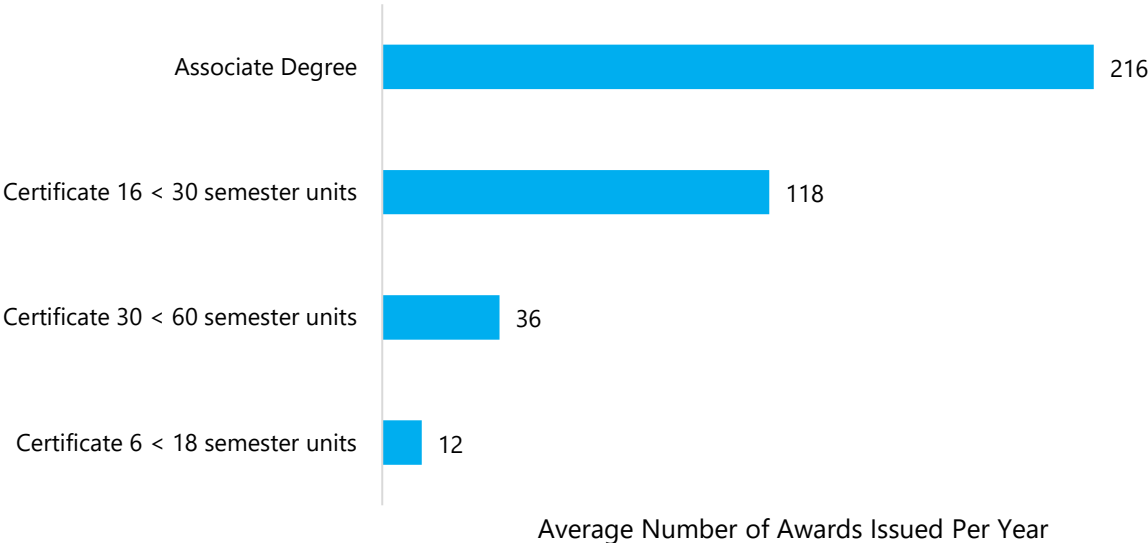
Community College Supply

Exhibits 14 and 15 compare the average number of certificates and degrees from selected Greater Sacramento community college programs over the last three academic years.

Exhibit 14. Annual average community college awards by program

Program - TOP Code	College	Annual Awards 2019-20	Annual Awards 2020-21	Annual Awards 2021-22	3-Yr Annual Awards Average
Accounting (0502.00)	American River	55	71	78	68
	Cosumnes River	65	72	61	66
	Folsom Lake	14	14	15	14
	Lake Tahoe	5	5	5	5
	Sacramento City	26	54	69	50
	Sierra	169	168	114	150
	Woodland	11	5	9	8
	Yuba	15	11	34	20
Grand Total		360	400	385	382

Exhibit 15. Annual average community college awards by type, 2019-20 through 2021-22



Other Postsecondary Supply

Exhibit 16 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
Accounting Technology/Technician and Bookkeeping (52.0302)	Asher College	29	34	20	28
	MTI College	6	8	13	9
	Grand Total	35	42	33	37

FINDINGS

- This report focuses on four occupations in the Bookkeeping and Accounting career pathway: Bookkeeping, Accounting, and Auditing Clerks (43-3031), Payroll and Timekeeping Clerks (43-3051), Tax Preparers (13-2082), and Accountants and Auditors (13-2011).
- The Greater Sacramento subregion held 28,022 bookkeeping and accounting jobs in 2021. These jobs are projected to increase by 3% over the next five years, adding 726 new jobs to the subregion by 2026.
 - Forty-four percent of the jobs in 2021 were for bookkeeping, accounting, and auditing clerks (n = 12,234 jobs in 2021), while another 46% were for accountants (n = 12,988). Projected job growth is faster for accountants (5%) than bookkeepers (2%).
- Bookkeeping and accounting jobs are projected to grow faster in the Greater Sacramento subregion than in California.
- Over the next five years, bookkeeping and accounting jobs are projected to have 2,982 annual openings in the Greater Sacramento subregion.
 - Forty-four percent of annual job openings are for bookkeeping, accounting, and auditing clerks (n = 1,412 annual openings), while another 43% are for accountants (n = 1,275).
- Wage data shows that bookkeeping and accounting occupations earn \$3 to \$16 above the single adult living wage of \$14.53 per hour.
- According to real-time labor market information, there were about 7,530 online postings for bookkeeping and accounting jobs between January 1, 2022, and December 31, 2022. Forty-five percent of job postings were for bookkeepers.
- Between 14% and 53% of incumbent workers in the studied occupations have educational attainment levels consistent with community college offerings (some college or associate degrees). Another 19% to 62% of workers in these occupations hold a bachelor's degree.
 - Bookkeeping, accounting, and auditing clerks have the highest proportion of incumbent workers with a community college education. Fifty-three percent of incumbent bookkeepers have either attended some college or earned an associate degree.
 - Bachelor's degrees are more common among accountants, with 62% of workers holding a four-year degree.

- All Greater Sacramento community colleges offer degrees and certificates in programs related to bookkeeping and accounting occupations. Together, these programs conferred an average of 382 awards (certificates and associate degrees) in accounting programs (TOP 0502.00) over the last three academic years (2019-20 through 2021-22).
 - The largest share of these awards were associate degrees, at nearly 56% of annual community college awards issued over the last three academic years.
- 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 37 awards in accounting technology programs (CIP 52.0302) over the last three years. Please note that non-community college awards data often lags by one year.

RECOMMENDATIONS

- Based on projected yearly openings and average annual awards in the Greater Sacramento subregion, there seems to be an undersupply of bookkeeping and accounting workers.
 - Community colleges and other postsecondary training providers issued an average of 419 awards over the last three years.
 - There are 2,982 projected annual openings for bookkeeping and accounting jobs.
- The North (Greater Sacramento) Center of Excellence recommends developing new programs or modifying existing programs in accounting.

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"/>

Program Modification	
Move forward with program modifications	Program modifications are not recommended
<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.

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/>

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
Workforce Development Program



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