

October 2019

Labor Market Analysis

21st Century Skills



California
Community
Colleges



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CENTERS OF EXCELLENCE
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Summary

This study conducted by the Central Valley/Mother Lode Center of Excellence examines labor market demand, wages, skills, and postsecondary supply for 050500-Business Administration. However, analysis of the provided occupation (13-1199.01) and request description revealed that 050600-Business Management was a better fit. Upon agreement from the college from the college for the TOP code change, four occupations related to 21st century skills for Reedley College were identified:

- General and Operations Managers (SOC 11-1021)
- Administrative Services Managers (SOC 11-3011)
- Cost Estimators (SOC 13-1051)
- Business Operations Specialists, All Other (SOC 13-1199)

Key findings:

- **Occupational demand** — Nearly 2,072 workers were employed in jobs related to 21st century skills in 2018 in the South Central Valley/Southern Mother Lode subregion. The largest occupation is general and operations managers with 10,335 workers in 2018, a projected growth rate of 8% over the next five years, and 1,031 annual openings.
- **Wages** — The entry-level wages for all of the occupations exceed the average self-sufficiency wage and living wage for a single adult in the subregion.
- **Employers** — Top employers in the subregion are Anthem Blue Cross, Target, and Dollar Tree.
- **Job titles** — The most common occupational title in job postings is general and operations manager. The most common job title is operations manager.
- **Skills and certifications** — The top baseline skill is communication skills, the top specialized skill is budgeting, and the top software skill is Microsoft Excel. The most in-demand certification is a driver's license.
- **Education** — The typical education required for the four occupations is a bachelor's degree, but in three occupations (with the exception of business operations specialists) more than one-third of workers have less than a bachelor's degree, making these middle-skill occupations that are relevant to community college education.
- **Supply** — Analysis of postsecondary completions in the region shows that on average 96 awards were conferred in the Central Valley/Mother Lode region each year.

Based on a comparison of occupational demand and supply, there is an undersupply of 1,985 trained workers in the subregion and 3,223 workers in the region. The Center of Excellence recommends that Reedley College work with the business and entrepreneurship regional director, the college's advisory board, and local industry in the expansion of programs to address the shortage of workers with 21st century skills in the subregion.

Introduction

The Central Valley/Mother Lode Center of Excellence was asked by Reedley College to provide labor market information for 21st century skills. Review of the Taxonomy of Programs revealed the following programs are appropriate for this analysis:

- Business Management-050600
- Small Business and Entrepreneurship-050640

The geographical focus for this report is the South Central Valley/Southern Mother Lode (SCV/SML) subregion, but regional demand-and-supply data has been included for broader applicability and use. Analysis of the program and occupational data related to 21st century skills resulted in the identification of four applicable occupations. The Standard Occupational Classification (SOC) System titles and codes used in this report are:

- General and Operations Managers (SOC 11-1021)
- Administrative Services Managers (SOC 11-3011)
- Cost Estimators (SOC 13-1051)
- Business Operations Specialists, All Other (SOC 13-1199)

The SOC codes, occupational titles, job descriptions, sample job titles, and knowledge and skills from the Bureau of Labor Statistics and O*NET OnLine are shown in Exhibit 1. Data through O*NET OnLine was not available for Business Operations Specialists, All Other (SOC 13-1199).

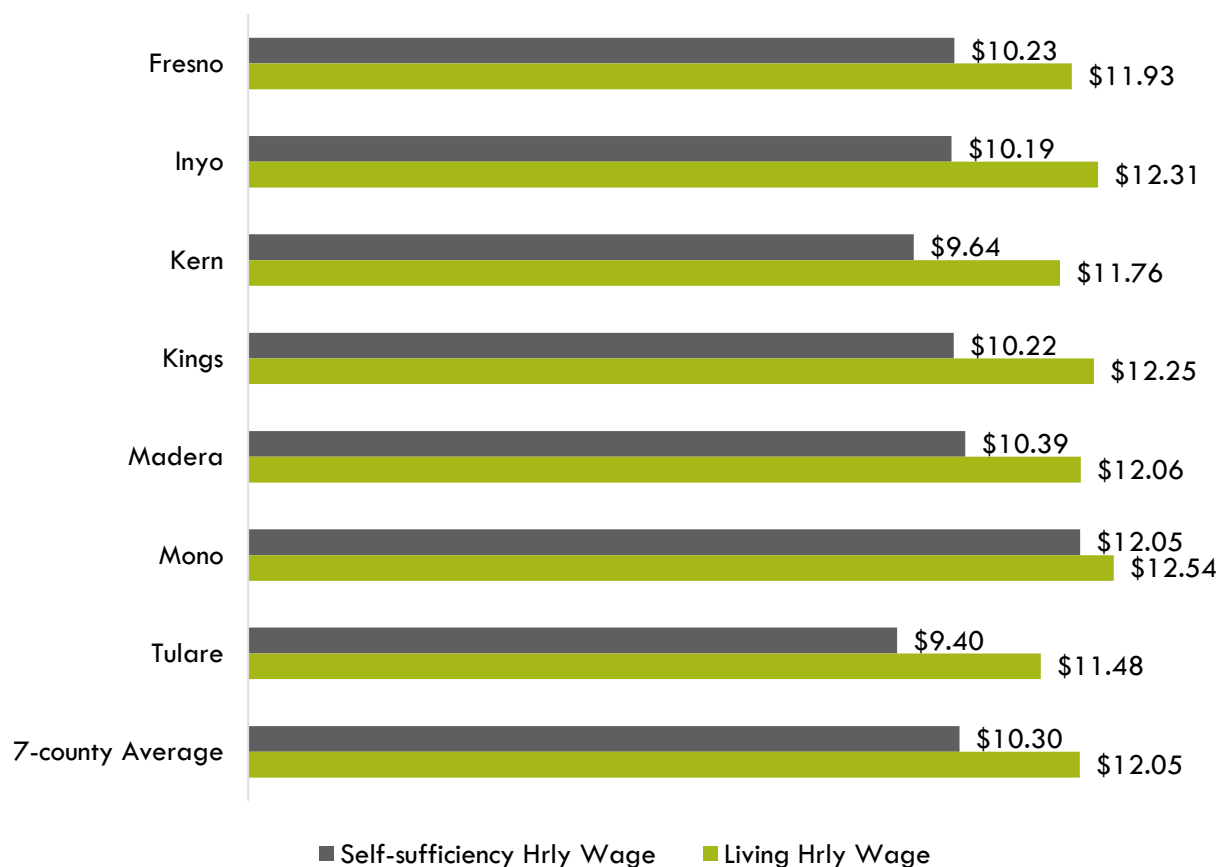
Exhibit 1. SOC titles, job descriptions, sample job titles, and knowledge and skills for 21st century skills

SOC Title & CODE	Description	Sample Job Titles	Knowledge & Skills
General and Operations Managers (SOC 11-1021)	Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services.	Business Manager, Facilities Manager, Facility Manager, General Manager (GM), Operations Director, Operations Manager, Plant Manager, Plant Superintendent, Production Manager, Store Manager	Knowledge Administration and Management Customer and Personal Service Personnel and Human Resources English Language Mathematics Skills Active Listening Coordination Monitoring Social Perceptiveness Speaking
Administrative Services Managers (SOC 11-3011)	Plan, direct, or coordinate one or more administrative services of an organization, such as records and information	Administrative Coordinator, Administrative Director, Administrative	Knowledge Customer and Personal Service Administration and Management

SOC Title & CODE	Description	Sample Job Titles	Knowledge & Skills
	management, mail distribution, facilities planning and maintenance, custodial operations, and other office support services.	Manager, Administrative Officer, Administrative Specialist, Administrator, Business Administrator, Business Manager, Facilities Manager, Office Manager	Clerical Computers and Electronics English Language Skills Active Listening Reading Comprehension Time Management Speaking Coordination
Cost Estimators (SOC 13-1051)	Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.	Acquisition Cost Estimator, Construction Estimator, Cost Analyst, Cost and Risk Analysis Manager, Cost Consultant, Cost Engineer, Cost Estimator, Estimator, Estimator Project Manager, Preconstruction Manager	Knowledge Mathematics Engineering and Technology English Language Building and Construction Computers and Electronics Skills Mathematics Critical Thinking Reading Comprehension Active Listening Judgment and Decision Making

The average self-sufficiency wage for a single adult in the South Central Valley/Southern Mother Lode (SCV/SML) subregion is \$10.30/hour, and the current average living wage for a single adult is \$12.05/hour. Self-sufficiency and living wage data by county and the overall seven-county average are shown in Exhibit 2. In the wages section of this report, Pct. 25 hourly denotes entry-level wages, and median represents experienced wages.

Exhibit 2. Self-sufficiency and living wages in the SCV/SML subregion



Occupational Demand

The South Central Valley/Southern Mother Lode subregion employed nearly 20,072 workers in 21st century skills occupations in 2018 (Exhibit 3). The largest occupation is general and operations managers with 10,335 workers in 2018. This occupation is projected to grow by 8% over the next five years and has the greatest number of projected annual openings, 1,031.

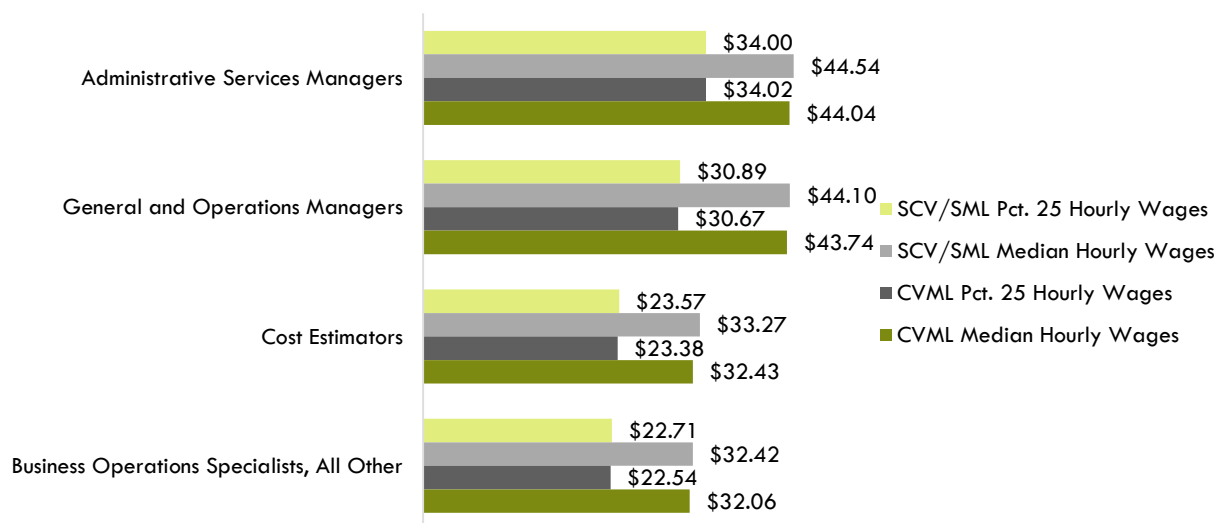
Exhibit 3. 21st century skills employment and occupational projections in the SCV/SML subregion

Occupation	2018 Jobs	2023 Jobs	2018-2023 Change	5-Year % Change	Annual Openings
General and Operations Managers	10,335	11,212	877	8%	1,031
Business Operations Specialists, All Other	6,542	6,964	422	6%	682
Cost Estimators	1,641	1,745	104	6%	182
Administrative Services Managers	1,554	1,665	111	7%	149
Total	20,072	21,585	1,514	7%	2,044

Wages

Exhibit 4 compares the entry-level and experienced wages of the 21st century skills occupations. The entry-level wages for all of the occupations exceed the subregion's living wage and self-sufficiency wage for one adult. The occupation earning the highest median wages is administrative services managers, \$44.54/hour in the subregion and \$44.04/hour in the region.

Exhibit 4. Entry-level and experienced wage comparison for 21st century skills in the subregion and region



Job Postings

There were 2,255 job postings for the four occupations in the South Central Valley/Southern Mother Lode subregion from October 2018 through September 2019. The top employers advertising these job postings are listed in Exhibit 5.

Exhibit 5. Top employers of 21st century skills by number of job postings

Employer	Job Postings
Anthem Blue Cross	62
Target	54
Dollar Tree	21
California State University	21
Edison International	20
Chuze Fitness	19
Gap Inc.	18
Patheon	16
Jones Lang Lasalle Incorporated	16
Family Dollar Stores Incorporated	15

Job Titles

Exhibit 6 shows how job postings for the four targeted occupations in the subregion are distributed across four O*NET OnLine occupations. The majority of job postings, 1,295 in total, use the occupational title general and operations managers, followed by administrative services managers, 358 job postings.

Exhibit 6. Top occupational titles in job postings for 21st century skills

Occupational Title	Job Postings
General and Operations Managers	1,295
Administrative Services Managers	358
Cost Estimators	310
Business Operations Specialists, All Other	292

Analysis of the 2,255 advertised job titles for the targeted occupations reveals the top title is operations manager, occurring in 167 job postings, followed by estimator, 138 job postings (Exhibit 7).

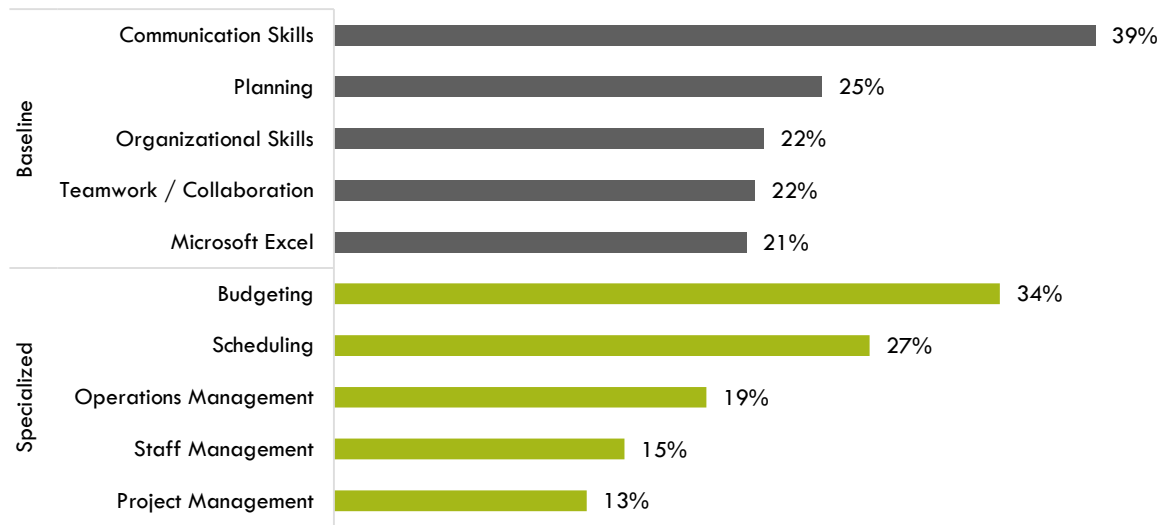
Exhibit 7. Top job titles by number of job postings for 21st century skills

Job Title	Job Postings
Operations Manager	167
Estimator	138
General Manager	101
Facilities Manager	83
Assistant Manager	81
Area Sales Manager	60
Operations Supervisor	54
Security Specialist	52
Manager In Training	52
District Manager	37

Skills

Exhibit 8 depicts the top baseline and specialized skills for the four targeted occupations. The three most important baseline skills are communication skills, 39% of job postings, planning, 25%, and organizational skills, 22%. The top three specialized skills are budgeting, 34% of job postings, scheduling, 27%, and operations management, 19%.

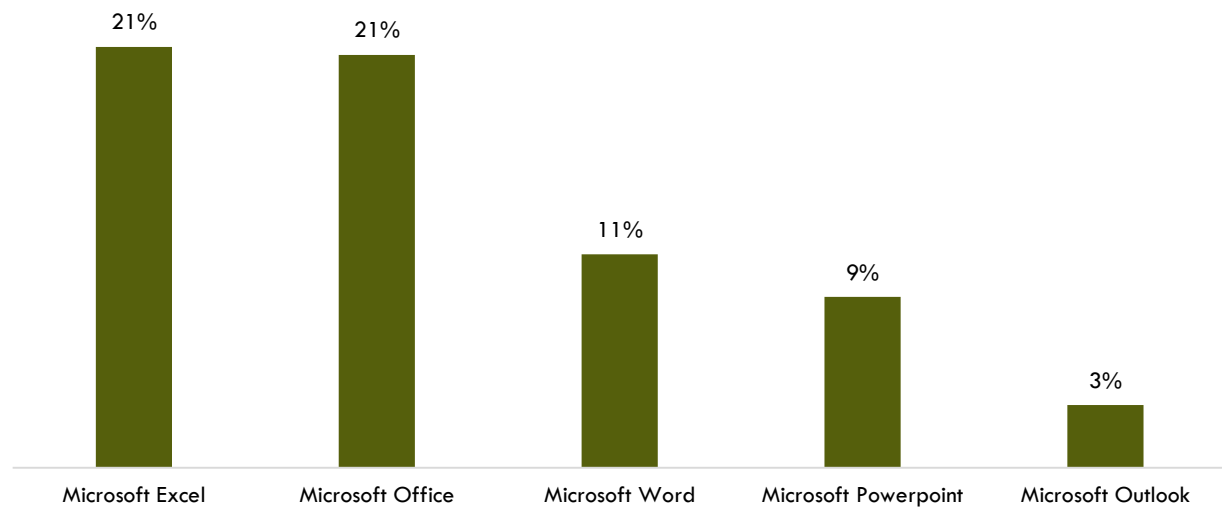
Exhibit 8. In-demand 21st century skills baseline and specialized skills



Software Skills

Analysis also included the software skills most in demand by employers. Microsoft Excel and Office rank first and second (Exhibit 9).

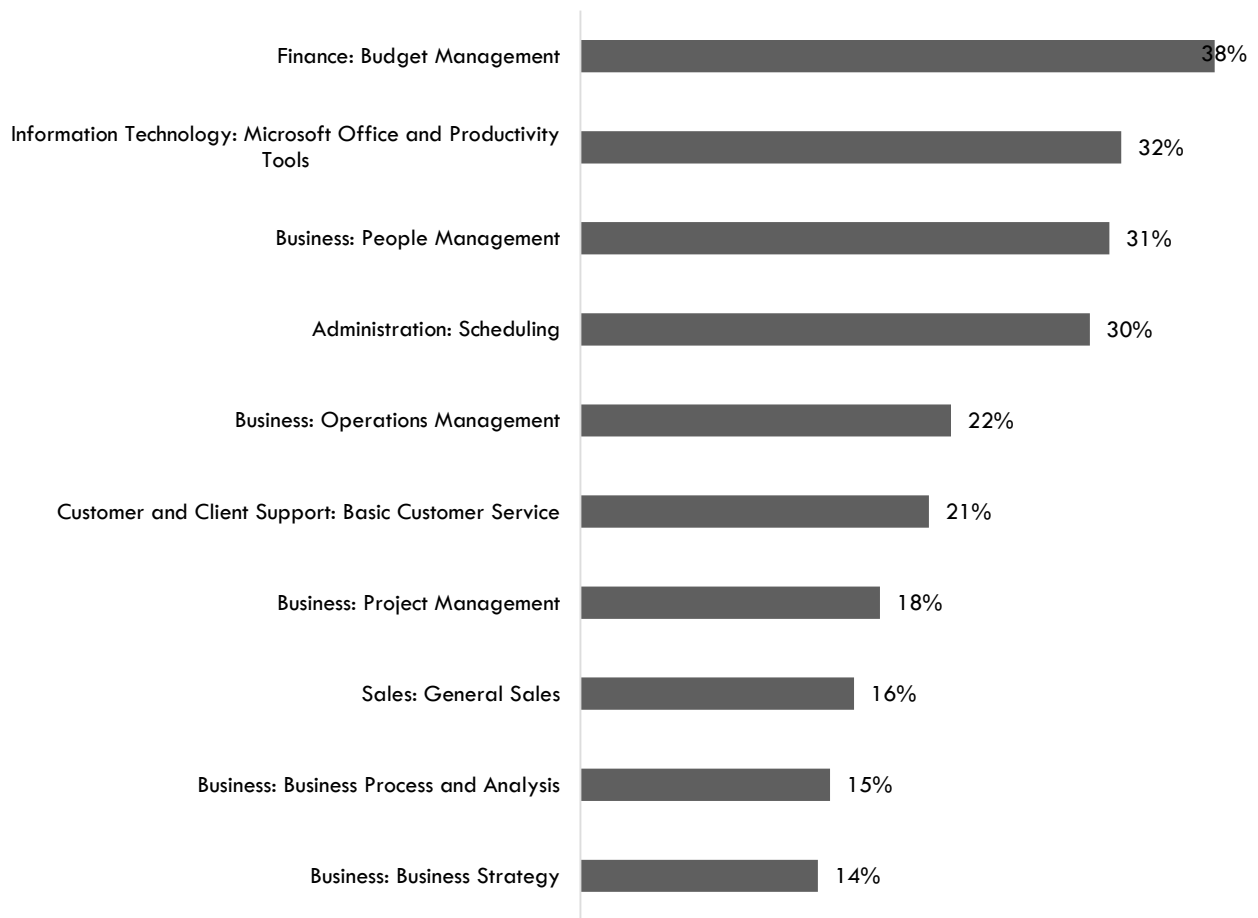
Exhibit 9. In-demand 21st century skills software skills



Skill Cluster Projections

Of the 2,255 job postings, 1,824 postings contained skill projections. An evaluation of the skill clusters that will have the greatest gains in level of importance shows that the top areas are finance: budget management (38%); information technology: Microsoft Office and productivity tools (32%); and business: people management (31%) (Exhibit 10).

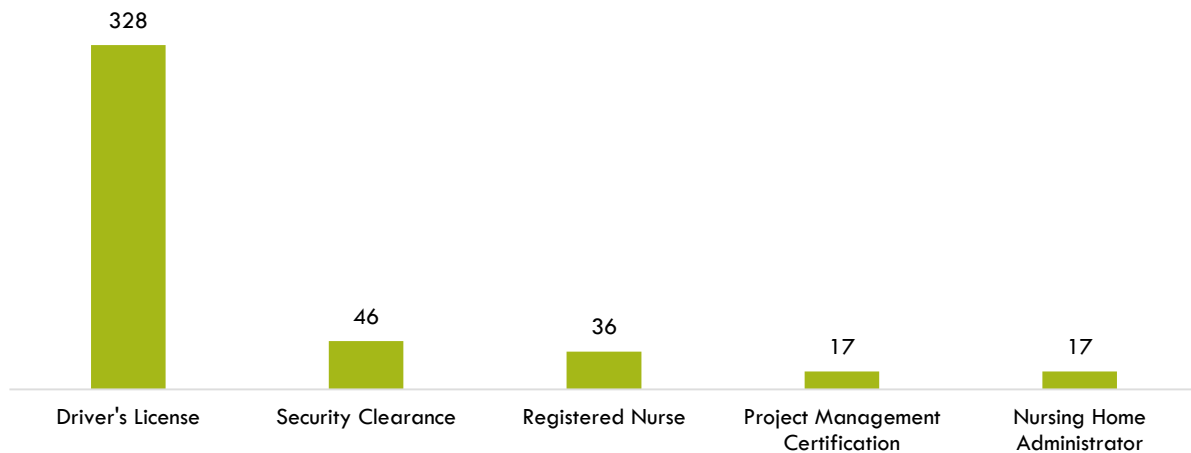
Exhibit 10. Skill cluster projections for 21st century skills



Certifications

Of the 2,255 job postings, 328 indicated a need for a driver's license. The next two top security clearance and registered nurse (Exhibit 11).

Exhibit 11. Top 21st century skills certifications requested in job postings



Education, Work Experience & Training

The four occupations typically require a bachelor's degree, but in three occupations (with the exception of business operations specialists) more than one-third of workers have less than a bachelor's degree, making these middle-skill occupations that are relevant to community college education (Exhibit 12).

Exhibit 12. Education, work experience, training and Current Population Survey results for 21st century skills occupations¹

Occupation	Typical Entry-level Education	Work Experience Required	Typical On-The-Job Training	CPS
General and Operations Managers	Bachelor's degree	5 years or more	None	34.8%
Administrative Services Managers	Bachelor's degree	Less than 5 years	None	38.2%
Cost Estimators	Bachelor's degree	None	Moderate-term	39.3%
Business Operations Specialists, All Other	Bachelor's degree	None	None	23.5%

Supply

Analysis of program data from the California Community Colleges Chancellor's Office Data Mart included the TOP codes: Business Management-050600 and Small Business and Entrepreneurship-050640. Analysis of the last three years of TOP code data shows that, on average, 96 awards were conferred in the Central Valley/Mother Lode region each year (Exhibit 13).

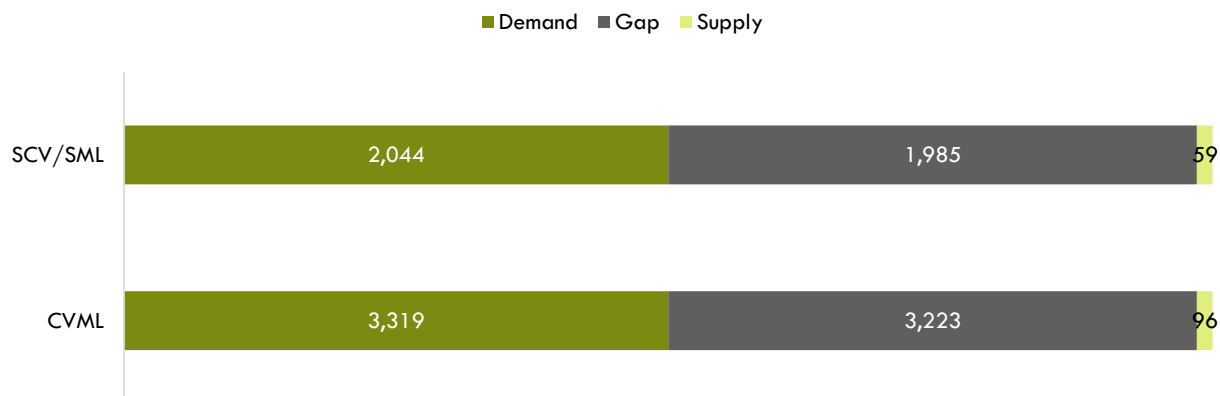
Exhibit 13. Postsecondary supply for 21st century skills occupations in the region

TOP Title-Code	College	Certificates	Degrees	Subtotal
Business Management-050600	Cerro Coso	2	3	5
	Clovis Community	1	1	2
	Columbia	18		18
	Fresno City	24	8	32
	Modesto Junior		14	14
	Reedley College	1	5	6
	West Hills Coalinga	1	1	2
	West Hills Lemoore	3	5	8
Small Business and Entrepreneurship-050640	Clovis Community	0		0
	Columbia	3	0	3
	Merced	0	2	2
	Reedley College	2	1	3
TOTAL		56	39	96

¹ "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, <https://www.bls.gov/cps/>.

There is an undersupply of 1,985 workers with 21st Century skills in the subregion and 3,223 in the region (Exhibit 14).

Exhibit 14. 21st century skills workforce annual demand and supply in the SCV/SML subregion and region



Student Outcomes

Exhibit 15 summarizes employment and wage outcomes from the California Community College Chancellor’s Cal-PASS Plus LaunchBoard for the TOP codes related to 21st century skills. A total of 109 business management students and 10 small business and entrepreneurship students received a degree or certificate. Nearly 690 business management students transferred compared to 71 small business and entrepreneurship students. A higher percentage of business management students reported being employed in the second fiscal quarter after exit while a higher percentage of small business and entrepreneurship students reported a median change in earnings.

Exhibit 15: Regional metrics for the TOP codes related to 21st century skills

Metric	Business Management	Small Business and Entrepreneurship
	050600	050640
Students Who Got a Degree or Certificate	109	10
Number of Students Who Transferred	688	71
Employed in the Second Fiscal Quarter after Exit	74% (n=997)	55% (n=111)
Median Change in Earnings	30% (n=619)	80% (n=40)
Attained a Living Wage		45% (n=44)
Job Closely Related to Field of Study	*	*
* denotes data not available.		

Conclusion

The entry-level wages of all four occupations exceed the SCV/SML subregion's self-sufficiency and living wages for one adult. The occupation earning the highest median wages is administrative services managers, \$44.54/hour in the subregion and \$44.04/hour in the region. There were 2,255 job postings in the past 12 months for occupations related to 21st century skills in the region.

Analysis of skills and certification requirements in job postings indicates:

- The top baseline skill is communication skills, and the top specialized skill is budgeting.
- The top software skill is Microsoft Excel.
- The top certification is a driver's license.

There is an undersupply of trained workers, a shortage of 1,985 in the subregion and 3,223 in the region.

Recommendation

Based on these findings, it is recommended that Reedley College work with the business and entrepreneurship regional director, the college's advisory board, and local industry in the expansion of programs to address the shortage of workers with 21st century skills in the subregion.

Appendix A: Methodology & Data Sources

Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor’s Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Labor Market Information/Population Estimates and Projections/Educational Attainment	Economic Modeling Specialists, Intl. (EMSI). 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). Occupational wage estimates also affected by county-level EMSI earnings by industry: economicmodeling.com .
Living Wage	A living wage calculator that estimates the cost of living in a specific community or region: livingwage.mit.edu .
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: www.bls.gov/emp/ep_education_tech.htm .
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division, labormarketinfo.edd.ca.gov
Job Posting and Skills Data	Burning Glass, http://www.burning-glass.com/
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 occupations as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: www.onetonline.org

Key Terms and Concepts

Annual Job Openings: Annual openings are calculated by dividing the number of years in the projection period by total job openings.

Education Attainment Level: The highest education attainment level of workers age 25 years or older.

Employment Estimate: The total number of workers currently employed.

Employment Projections: Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (EMSI) formula that includes historical employment and economic indicators along with national, state and local trends.

Living Wage: The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

Occupation: An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

Percent Change: Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

Replacements: Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

Total Job Openings (New + Replacements): Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

Typical Education Requirement: represents the typical education level most workers need to enter an occupation.

Typical On-The-Job Training: indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.

Wages Family Compositions: The living wage calculator estimates the living wage needed to support families. For single adult families, the adult is assumed to be employed full time. For two adult families where both adults are in the labor force, both adults are assumed to be employed full time. For two adult families where one adult is not in the labor force, one of the adults is assumed to be employed full time while the other non-wage-earning adult provides full-time child care for the family's children. Full-time work is assumed to be year-round, 40 hours per week for 52 weeks, per adult. Families with one child are assumed to have a 'young child' (4 years old). Families with two children are assumed to have a 'young child' and a 'child' (9 years old). Families with three children are assumed to have a 'young child,' a 'child,' and a 'teenager' (15 years old).