

# Program Endorsement Brief:

Folsom Lake College: Business Analyst and Data Analytics Certificate Program

**North/Far North Center of Excellence, October 2018**

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## INTRODUCTION

Folsom Lake College is exploring new program opportunities related to business analytics and data analytics. This report provides an overview of the labor market demand and supply for related business analytics occupations in the 7-county Greater Sacramento region<sup>1</sup>. It provides an overview of the employment opportunities and existing community college programs that prepare students for the profession.

Key findings include:

- The research does not enable gap analysis or an accurate estimate of the size and performance of the labor market.
- The available data shows that Management Analysts and Computer System Analysts have shown strong growth in the last ten years, increasing 20 percent at the regional and state levels. Added to employment churn, over the next five years, the projections show about 3,000 annual openings in the two occupations.
- Jobs postings volume for related positions did not show the same growth as the occupational employment data.
- Wages are robust, between \$34 per hour and \$40 per hour at the median level in the Sacramento region.
- These are above middle skill jobs. About 75 percent to 80 percent of the current occupational workforce has at least a bachelor's degree. A third of Management Analysts have a master's degree.
- Project management, SQL, data and business analysis show up as prominent skills in the jobs postings.

Findings in this report were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from EMSI and job posting data from Burning Glass.

The report contains the following sections:

- Occupational demand,
- Wages and job postings,
- Educational attainment and supply, and
- Findings and recommendations.

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<sup>1</sup> The 7-county Greater Sacramento region includes El Dorado, Placer, Nevada, Sacramento, Sutter, Yolo and Yuba counties.

# OCCUPATIONAL DEMAND

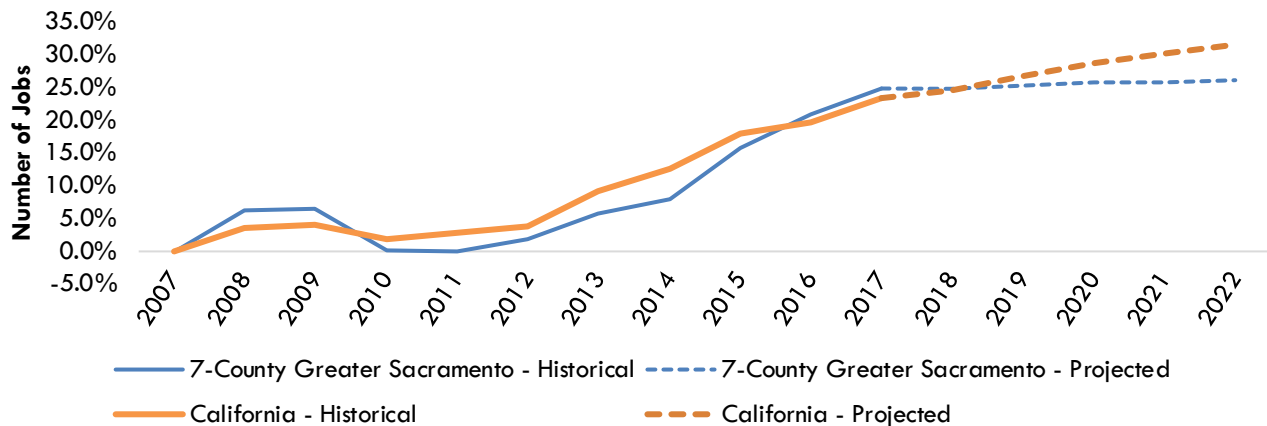
This report analyzes Management Analysts (SOC code 13-1111) and Computer System Analysts (SOC Code 15-1121) in relation to the proposed program. Exhibit 1 summarizes job trends of the selected occupations in the 7-county Greater Sacramento region, and California.

**Exhibit 1: Employment, projected occupational demand<sup>2</sup>**

Geography	SOC Code	2007 Jobs	2017 Jobs	2022 Jobs	2017-22 Jobs % Change	Annual Openings
Management Analysts	13-1111	17,598	22,706	22,975	1.2%	2,197
Computer Systems Analysts	15-1121	7,132	8,170	8,214	0.5%	625
<b>7-County Greater Sacramento Region Total</b>		<b>24,730</b>	<b>30,876</b>	<b>31,189</b>	<b>1.0%</b>	<b>2,822</b>
Management Analysts	13-1111	112,614	137,617	145,715	5.9%	13,687
Computer Systems Analysts	15-1121	61,886	77,698	83,835	7.9%	6,420
<b>California Total</b>		<b>174,499</b>	<b>215,314</b>	<b>229,550</b>	<b>6.6%</b>	<b>20,108</b>

Exhibit 2 shows the percentage change in number of jobs between 2007 through 2017 and occupational projections from 2017 through 2022. The rate of change is indexed to the total number of jobs in 2007 as the base year and compares 7-County Greater Sacramento Region and California.

**Exhibit 2: Rate of change for selected occupations<sup>3</sup>**



The employment of the selected occupations experienced robust growth since 2014 at both regional and state levels. The 5-year employment projection indicates the selected occupations are going to stagnate in the 7-county region while they continue to grow across the state. Employers in the region are projected to create on average 2,800 new and replacement job openings annually for the occupations studied in the next five years, accounted for 14 percent of California’s total demand for the same occupation.

# WAGES AND JOB POSTINGS

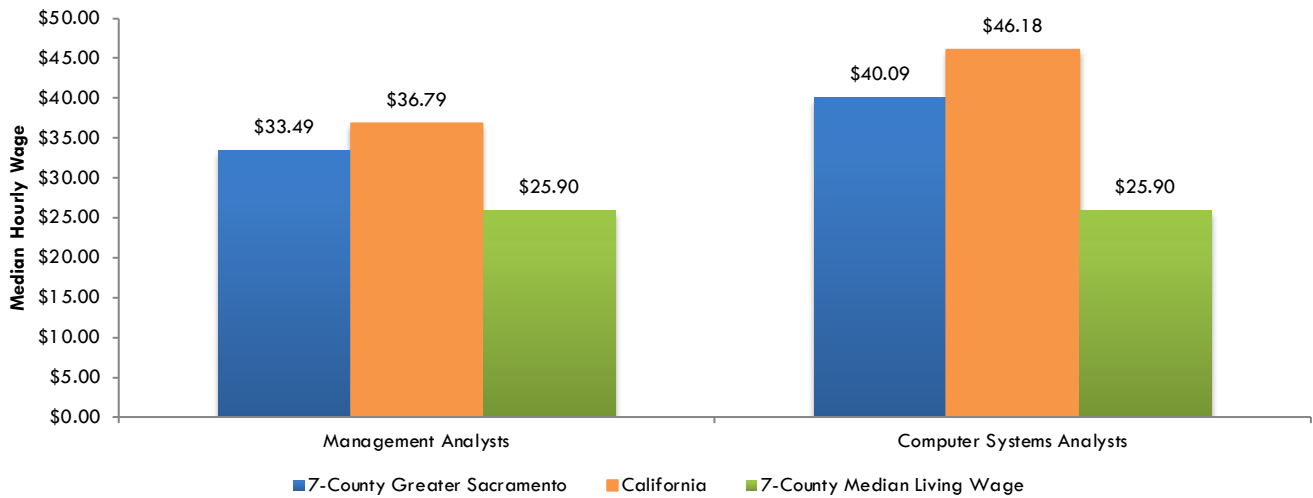
Exhibit 3 displays hourly wages for Management Analysts and Computer Systems Analysts in the 7 counties and compared to the 7 counties’ median living wages for a one-adult, one-child household.<sup>4</sup> The chart also compares the 7 counties to the state for the studied occupation. Wages for both selected occupations are above living wage in the 7-county region but are below state average wages for the same occupations.

<sup>2</sup> Emsi 2018.4; QCEW Employees, Non-QCEW Employees and Self-Employed.

<sup>3</sup> Ibid.

<sup>4</sup> Living Wage Calculator: Counties and Metropolitan Statistical Areas in California, <http://livingwage.mit.edu/states/06/locations>.

**Exhibit 3: Hourly Wages for selected occupations<sup>5</sup>**



Burning Glass data identified 2,960 job postings in the 7-County Greater Sacramento region on Management Analysts and Computer System Analysts. About 892 out of the 2,960 job postings asks for Business Analysis as one of the desired or required skills. Data analytics as a search criteria did not account for a significant number of job postings. Data was pulled for the last year from October 1, 2017 through September 30, 2018.

Exhibit 4 presents the job postings trend for the representative SOC codes over the past 10 years compared to the median during the same period for the 7-County region.

**Exhibit 4: Job posting trend for Selected Occupations<sup>6</sup>**

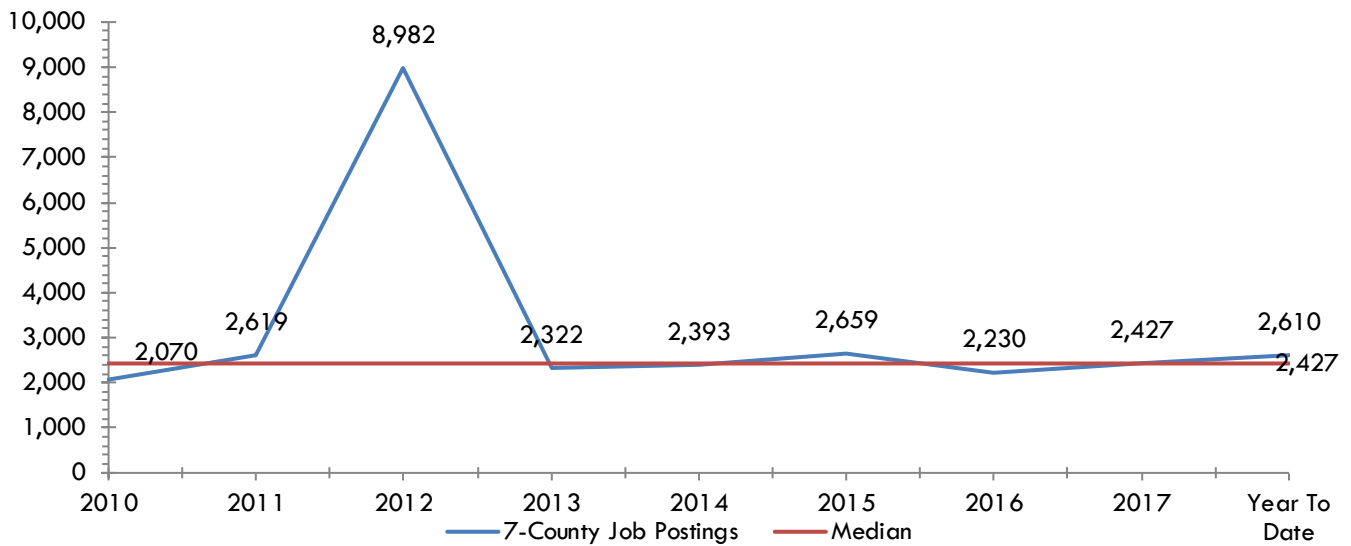


Exhibit 5 shows the top titles for positions within the selected occupation that were present in the job postings.

<sup>5</sup> Emsi 2018.4; QCEW Employees, Non-QCEW Employees and Self-Employed.  
<sup>6</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool," 2018.

**Exhibit 5: Top titles for Selected Occupations<sup>7</sup>**

Top Titles	Number	Percent (n=2,960)
Business Analyst	620	20.9%
Business Systems Analyst	217	7.3%
Program Analyst	181	6.1%
Systems Analyst	113	3.8%
Senior Business Analyst	90	3.0%
Consultant	89	3.0%
Business Consultant	82	2.8%
Management Analyst	68	2.3%
Business Process Analyst	48	1.6%
Education Programs Consultant	44	1.5%

Exhibit 6 shows the top employers for selected occupation jobs postings in 7-county Sacramento Region.

**Exhibit 6: Top Employers for selected occupations<sup>8</sup>**

Top Employer	Number	Percent (n=2,261)
State of California	199	8.8%
Accenture	88	3.9%
Centene Corporation	88	3.9%
Blue Cross Blue Shield of California	74	3.3%
Health Net Incorporated	51	2.3%
Deloitte	42	1.9%
University California	39	1.7%
Anthem Blue Cross	33	1.5%
Staff Technical Incorporated	30	1.3%
Sutter Health	22	1.0%

Exhibit 7 shows the top specialized and software skills desired within selected occupation positions in 7-county Sacramento Region.

**Exhibit 7: Top skills among selected occupations<sup>9</sup>**

Top Specialized Skills	Number	Percent (n=2,715)
Business Analysis	892	32.9%
Project Management	749	27.6%
Business Process	742	27.3%
SQL	392	14.4%
Customer Service	333	12.3%
Systems Analysis	326	12.0%
Budgeting	318	11.7%
Business Systems Analysis	296	10.9%
Data Analysis	276	10.2%

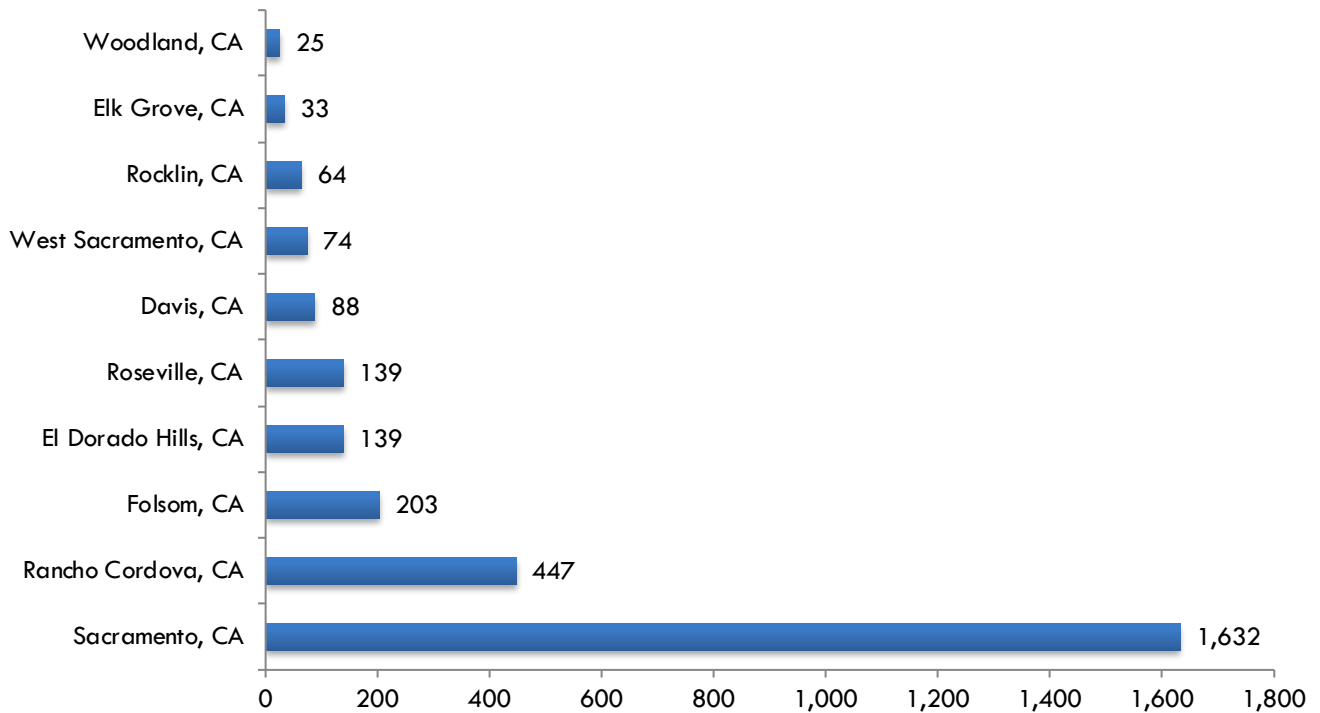
Exhibit 8 shows the cities where the representative occupation postings were located.

<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.

**Exhibit 8: Top locations listed for selected occupations<sup>10</sup>**

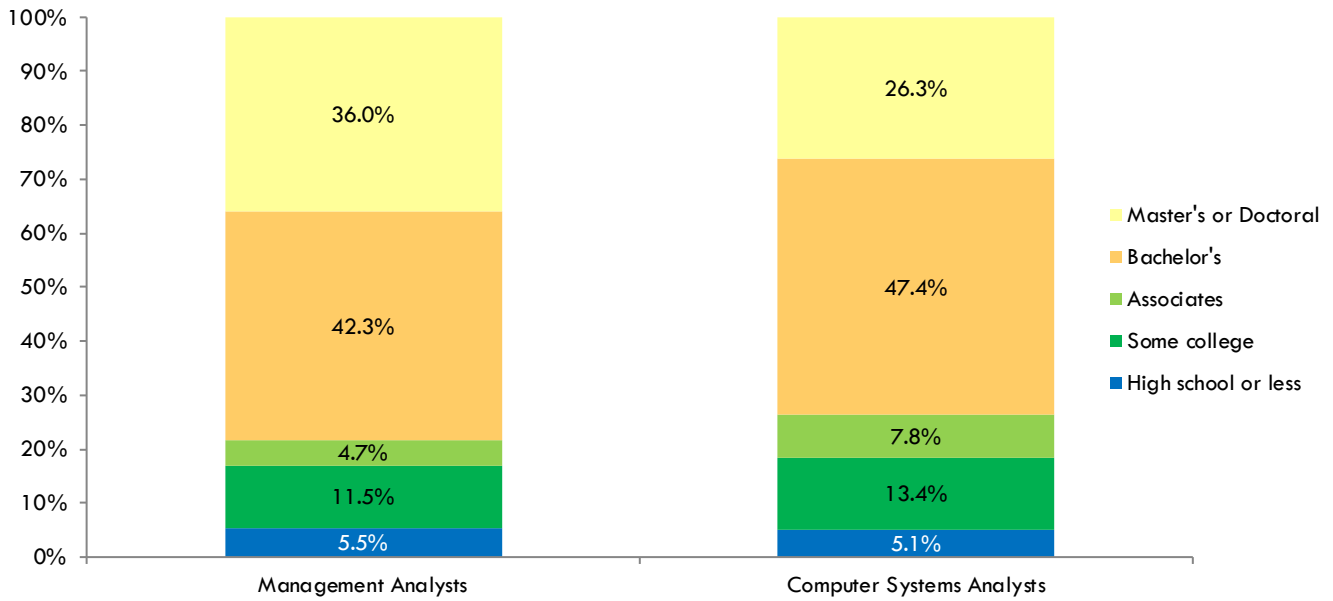


## EDUCATIONAL ATTAINMENT AND SUPPLY

At the national level, Management Analysts and Computer System Analysts typically employ workers who have a Bachelor's degree or a post graduate degree. Exhibit 9 breaks down the educational attainment percentages for these two occupations.

<sup>10</sup> Ibid.

**Exhibit 9: Typical educational attainment for selected occupations nationally<sup>11</sup>**

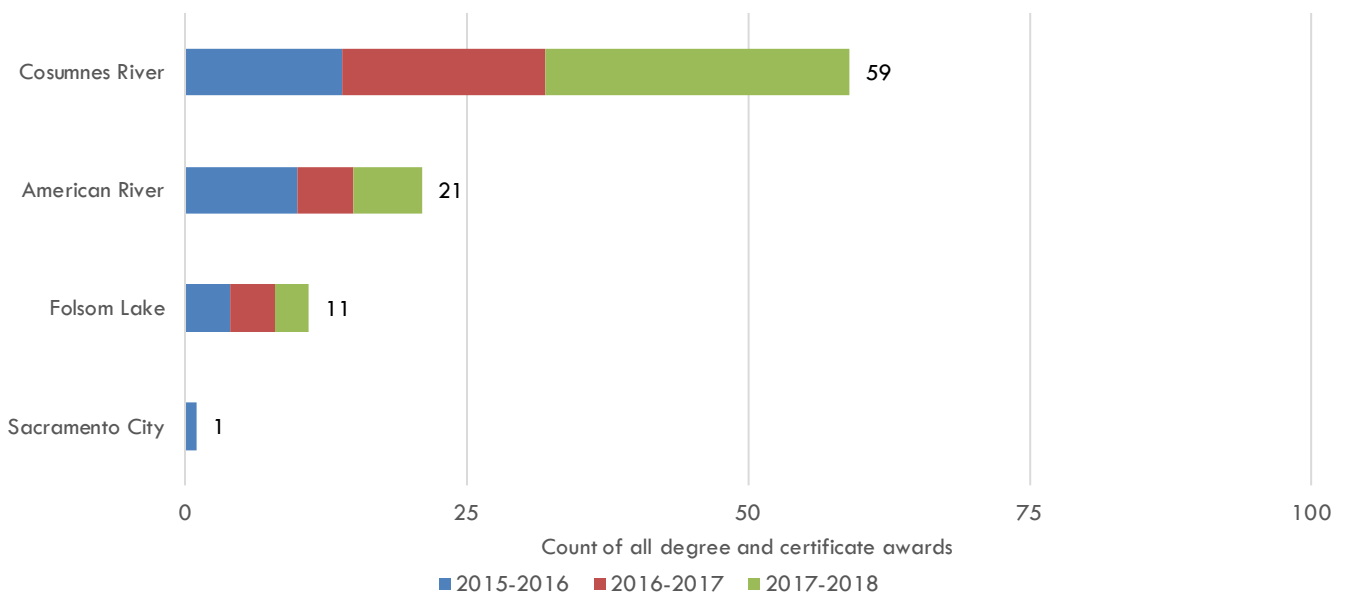


Database Design and Administration (TOP Code: 0707.20) is identified as the Taxonomy of Programs (TOP) code that relates to Business/Data Analysts.

Only four community colleges in the 7-county Greater Sacramento region offer related training. Cosumnes River College confers the majority of awards (59 awardees in the past three years). The community colleges in the region provided in total 92 awardees in this field in the past three years.

Exhibit 10 shows the total number of awards by colleges during the past three academic years.

**Exhibit 10: Total awards conferred by 7-county region community colleges, 2015-2018<sup>12</sup>**



<sup>11</sup> Current Population Survey, Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2015-2016, [https://www.bls.gov/emp/ep\\_table\\_111.htm](https://www.bls.gov/emp/ep_table_111.htm).

<sup>12</sup> COE Supply Tables, California Community Colleges Chancellor's Office DataMart, Integrated Postsecondary Education Data System (IPEDS).

Exhibit 11 shows the break down between certificates and associate degrees.

**Exhibit 11: Certificates and associate degrees conferred by 7-county region community colleges, 2015-2018**<sup>13</sup>

	Certificate				Associate			
	2015-16	2016-17	2017-18	3-Yr Avg	2015-16	2016-17	2017-18	3-Yr Avg
Cosumnes River	14	12	12	13		6	15	11
American River	3	2	2	2	7	3	4	5
Folsom Lake	4	4	3	4				
Sacramento City	1			1				
<b>Grand Total</b>	<b>22</b>	<b>18</b>	<b>17</b>	<b>19</b>	<b>7</b>	<b>9</b>	<b>19</b>	<b>12</b>

## FINDINGS

- The research does not enable gap analysis or an accurate estimate of the size and performance of the labor market. The proposed program is a hybrid between Information and Communications Technology (ICT), and business analysis. The nearest occupational codes were chosen and combined for the analysis. Similarly, the analysis uses the proposed TOP code from Folsom Lake College.
- The available data shows that Management Analysts and Computer System Analysts have shown strong growth in the last ten years, increasing 20 percent at the regional and state levels. Added to employment churn, over the next five years, the projections show about 3,000 annual openings in the two occupations.
- Jobs postings volume for related positions did not show the same growth as the occupational employment data.
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- These are above middle skill jobs. About 75 percent to 80 percent of the current occupational workforce has at least a bachelor's degree. A third of Management Analysts have a master's degree.
- Project management, SQL, data and business analysis show up as prominent skills in the jobs postings.
- Regional colleges register few awards in the related TOP code. Cosumnes River College has a program. It has generated about 60 awards in three years.

<sup>13</sup> Ibid.

## RECOMMENDATIONS

- The research did not identify a strict relationship between database design and administration and business analysis. The COE is currently working with Folsom Lake College and the DSN for ICT/DM on a more comprehensive analysis for skills in database design, database administration, and analysis. The exercise is intended to map skills to related positions and occupations, not to create a demand profile, as is the prerogative of the program endorsement report.
- While demand is robust, gap analysis would be challenging at best for these occupations, especially given the hybrid nature of what is proposed: existing bachelor's degrees would account for some relevant portion of a workforce pipeline. It appears that the community colleges have not made significant inroads or investments in these areas, and there may be room to grow. The COE skills map seeks to understand the range of positions and skills involved in the work.
- Any staple longer-term certificate or degree program must emphasize transfer. The data suggests that terminal programs below bachelor's degree level are proscribed. Shorter-term technical credentials may or may not find a successful evening audience for short-term professional development for incumbent or experienced workers.



# APPENDIX A: DATA SOURCES

Sources used for data analysis purposes in this report include:

- U.S. Department of Labor/Employment and Training Administration (DOLETA) O\*NET Online
- Burning Glass, Labor Insight/Jobs
- Economic Modeling Specialists, International (EMSI)
- California Employment Development Department, Labor Market Information Division (EDD, LMID)
- Bureau of Labor Statistics, Occupational Employment Statistics (OES)
- California Community Colleges Chancellor's Office, Cal-PASS Plus LaunchBoard
- Living Insight Center for Community Economic Development, Self-Sufficiency Standard Tool for California
- California Community Colleges Chancellor's Office Management Information Systems (MIS Data Mart)
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

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