

Program Endorsement Brief: 0502.00/Accounting

Accounting Data Analytics

Orange County Center of Excellence, January 2022

Summary Analysis

Program Endorsement:	Endorsed: All Criteria Met <input type="checkbox"/>	Endorsed: Some Criteria Met <input checked="" type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Living Wage: (Entry-Level, 25th)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Emerging Occupation(s)			
	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

The Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide Los Angeles/Orange County regional labor market supply and demand data related to one middle-skill occupation: *bookkeeping, accounting and auditing clerks (43-3031)*. Middle-skill occupations typically require some postsecondary education, but less than a bachelor’s degree. Additionally, though *accountants and auditors (13-2011)* is an above middle-skill occupation, it is included because the other occupation included in this report is a pathway to that occupation and students and/or working professionals will often take community college courses to become eligible for the CPA exam or obtain new and emerging skills. This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

Based on the available data there appears to be a supply gap for *bookkeeping, accounting, and auditing clerks* in the region. Furthermore, the Bureau of Labor Statistics (BLS) lists some college, no degree as the typical entry-level education for this occupation. While entry-level wages are lower than the living wage in Orange County, they exceed the living wage in Los Angeles County. **Therefore, due to some of the criteria being met, the COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, there is projected to be **7,648 middle-skill jobs available annually** in the region due to retirements and workers leaving the field, **which is more than the 1,850 awards conferred annually** by educational institutions in the region.
- **Living Wage Criteria** – Within Orange County, **typical entry-level hourly wages** for bookkeeping, accounting and auditing clerks are **\$18.60, which is lower than the living wage** for one adult in the region (\$20.63 in Orange County).¹

¹ Living wage data was pulled from California Family Needs Calculator on 1/10/22. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/family-needs-calculator/>.

- **However, median wages for this occupation exceed the living wage,** meaning that graduates could attain the living wage with additional work experience.
- **Educational Criteria** –The Bureau of Labor Statistics (BLS) lists **some college, no degree as the typical entry-level education** for *bookkeeping, accounting, and auditing clerks*.
 - Furthermore, the national-level educational attainment data indicates **49.4% of workers in the field have completed some college or an associate degree** as their highest level of education.

Supply:

- There are **28 community colleges** in the LA/OC region that issue awards related to *bookkeeping, accounting, and auditing clerks*, conferring an average of **1,805 awards annually** between 2017 and 2020.
- Between 2016 and 2019, there was an average of **45 awards conferred annually** in related training programs by non-community college institutions, all of which were generated by **8 individual non-community college institutions throughout** the region.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for the middle-skill occupation *bookkeeping, accounting, and auditing clerks*. In Los Angeles/Orange County, the number of jobs related to this occupation is projected to decrease by 4% through 2025. However, there will be more than 7,600 job openings per year through 2025 due to retirements and workers leaving the field.

Exhibit 1: Middle-skill occupational demand in Los Angeles and Orange Counties ²

Geography	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	Annual Openings
Orange	20,089	19,401	(688)	(3%)	2,177
Los Angeles	50,873	48,387	(2,487)	(5%)	5,470
Total	70,963	67,788	(3,175)	(4%)	7,648

Exhibit 2 shows the five-year occupational demand projections for the above middle-skill occupation *accountants and auditors*. In Los Angeles/Orange County, the number of jobs related to this occupation is projected to decrease by 1% through 2025. However, there will be nearly 6,000 job openings per year through 2025 due to retirements and workers leaving the field.

² Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 2: Above middle-skill occupational demand in Los Angeles and Orange Counties ³

Geography	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	Annual Openings
Orange	18,968	19,275	307	2%	1,738
Los Angeles	48,988	48,249	(739)	(2%)	4,228
Total	67,956	67,524	(432)	(1%)	5,971

This report includes employment projection data by Emsi which uses EDD information. Emsi's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy, during the projection period, will be at approximately full employment. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, it may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Therefore, the projections included in this report do not take the impacts of COVID-19 into account.

Wages

The labor market endorsement in this report considers the entry-level hourly wages for the middle-skill occupation *bookkeeping, accounting, and auditing clerks*, as well as the above middle-skill occupation *accountants and auditors*, in Orange County as they relate to the county's living wage. Los Angeles County wages are included below in order to provide a complete analysis of the LA/OC region. Detailed wage information, by county, is included in Appendix A.

Orange County: The typical entry-level hourly wages for the middle-skill occupation *bookkeeping, accounting, and auditing clerks* are \$18.60, which is below the living wage for one adult (\$20.63 in Orange County). Experienced workers can expect to earn wages of \$29.23, which is higher than the living wage estimate. Orange County's average wages are above the average statewide wage of \$24.55 for this occupation.

The typical entry-level hourly wages for the above middle-skill occupation *accountants and auditors* are \$25.42, which is above the living wage for one adult (\$20.63 in Orange County). Experienced workers can expect to earn wages of \$47.21, which is higher than the living wage estimate. Orange County's average wages are below the average statewide wage of \$43.67 for this occupation.

Los Angeles County: The typical entry-level hourly wages for the middle-skill occupation *bookkeeping, accounting, and auditing clerks* are \$18.56, which is above the living wage for one adult (\$18.10 in Los Angeles County). Experienced workers can expect to earn wages of \$29.20, which is higher than the living wage estimate. Los Angeles County's average wages are above the average statewide wage of \$24.55 for this occupation.

The typical entry-level hourly wages for the middle-skill occupation *accountants and auditors* are \$26.71, which is above the living wage for one adult (\$18.10 in Los Angeles County).

³ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Experienced workers can expect to earn wages of \$49.63, which is higher than the living wage estimate. Los Angeles County's average wages are below the average statewide wage of \$43.67 for this occupation.

Job Postings

Middle-Skill

There were 20,646 online job postings related to the middle-skill occupation *bookkeeping, accounting, and auditing clerks* listed in the past 12 months. The highest number of job postings were for bookkeepers, accounting clerks, accounts payable clerks, and accounts payable specialists. The top skills were accounting, accounts payable/accounts receivable, bookkeeping, and QuickBooks. The top three employers, by number of job postings, in the region were Certified Mobile Notary Services, CV Resources, and Intuit.

To focus more specifically on job opportunities related to the data analysis skills that students may attain through completion of a degree or certificate in accounting data analytics, an additional job postings analysis was conducted using the following terms as keywords: "data analytics" and "data analysis". There were 1,411 online job postings related to the middle-skill occupation *bookkeeping, accounting, and auditing clerks* that contained these keywords listed in the past 12 months. The highest number of job postings were for bookkeepers, accounting clerks, and accounts payable specialists. The top skills were accounting, accounts payable/receivable, and data entry. The top three employers, by number of job postings, in the region were Deloitte, Eide Bailly, and City National Bank.

Above Middle-Skill

There were 18,839 online job postings related to the above middle-skill occupation *accountants and auditors* listed in the past 12 months. The highest number of job postings were for staff accountants, senior accountants, and accountants. The top skills were: accounting, account reconciliation, generally accepted accounting principles (GAAP), financial statements, and general ledger. The top three employers, by number of job postings, in the region were: PricewaterhouseCoopers, KPMG, and Intuit.

There were 3,789 online job postings related to the above middle-skill occupation *accountants and auditors* that included the keywords "data analytics" or "data analysis" listed in the past 12 months. The highest number of job postings were for senior accountants, staff accountants, and accountants. The top skills were accounting, generally accepted accounting principles (GAAP), account reconciliation, budgeting, and financial statements. The top three employers, by number of job postings, in the region were PricewaterhouseCoopers, KPMG, and Deloitte.

It is important to note that the job postings data included in this section reflects online job postings listed in the past 12 months and does not yet demonstrate the impact of COVID-19. While employers have generally posted fewer online job postings since the beginning of the pandemic, the long-term effects are currently unknown.

Educational Attainment

The Bureau of Labor Statistics (BLS) lists some college, no degree as the typical entry-level education for the middle-skill occupation *bookkeeping, accounting, and auditing clerks*. Furthermore, the national-level educational attainment data indicates 49.4% of workers in the field have completed some college or an associate degree as their highest level of education. Of

the 65% of bookkeeping, accounting and auditing clerk job postings listing a minimum education requirement in Los Angeles/Orange County, 41.7% (5,558) requested high school or vocational training, 13.8% (1,834) requested an associate degree, and 44.3% (5,897) requested a bachelor's degree.

The Bureau of Labor Statistics (BLS) lists a bachelor's degree as the typical entry-level education for the above middle-skill occupation *accountants and auditors*. Furthermore, the national-level educational attainment data indicates 13.5% of workers in the field have completed some college or an associate degree as their highest level of education. Of the 78% of accountant and auditor job postings listing a minimum education requirement in Los Angeles/Orange County, 98.9% (14,563) requested a bachelor's degree and 0.9% (130) requested an associate degree.

Educational Supply

Community College Supply—Exhibit 2 shows the three-year average number of awards conferred by community colleges in the related TOP code: Accounting (0502.00). The colleges with the most completions in the region are: East LA, Irvine, Mt. San Antonio, and Santa Monica. Over the past 12 months, there were four other related program recommendation requests from regional community colleges.

Exhibit 3: Regional community college awards (certificates and degrees), 2017-2020

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
0502.00	Accounting	Coastline	43	49	40	44
		Cypress	5	8	6	6
		Fullerton	18	17	9	15
		Golden West	19	36	17	24
		Irvine	142	201	316	220
		Orange Coast	112	104	124	113
		Saddleback	32	38	36	35
		Santa Ana	86	198	125	136
		Santiago Canyon	55	7	6	23
		OC Subtotal	512	658	679	616
		Cerritos	26	29	49	35
		Citrus	20	18	18	19
		Compton	-	1	-	0
		East LA	397	635	577	536
		El Camino	8	16	13	12
		Glendale	52	63	63	59
		LA City	16	5	7	9
LA Harbor	4	8	15	9		

TOP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
		LA Mission	8	8	26	14
		LA Pierce	5	29	39	24
		LA Southwest	-	1	-	0
		LA Trade	26	21	12	20
		LA Valley	45	34	46	42
		Long Beach	36	42	63	47
		Mt San Antonio	114	174	187	158
		Pasadena	30	23	16	23
		Rio Hondo	17	14	17	16
		Santa Monica	169	78	217	155
		West LA	7	15	6	9
		LA Subtotal	980	1,214	1,371	1,188
Supply Total/Average			1,492	1,872	2,050	1,805

Non-Community College Supply—For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for *bookkeeping, accounting, and auditing clerks*. Exhibit 3 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Code: Accounting Technology/Technician and Bookkeeping (52.0302). Due to different data collection periods, the most recent three-year period of available data is from 2016 to 2019. Between 2016 and 2019, non-community college institutions in the region conferred an average of 45 awards annually in related training programs.

Exhibit 4: Regional non-community college awards, 2016-2019

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
52.0302	Accounting Technology/ Technician and Bookkeeping	ABC Adult School	-	19	22	14
		Advanced College	-	2	1	1
		Hacienda La Puente Adult Education	28	24	20	24
		InterCoast Colleges-Santa Ana	4	1	1	2
		Premiere Career College	2	4	2	3
		Southern California Institute of Technology	-	-	-	-

CIP Code	Program	College	2016-2017 Awards	2017-2018 Awards	2018-2019 Awards	3-Year Award Average
		Trident University International	-	-	5	2
		University of Phoenix-California	1	-	-	0
Supply Total/Average			35	50	51	45

Appendix A: Occupational demand and wage data by county

Exhibit 5. Orange County

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Bookkeeping, Accounting, and Auditing Clerks (43-3031)	20,089	19,401	(688)	(3%)	2,177	\$18.60	\$23.67	\$29.23
Middle-Skill Subtotal	20,089	19,401	(688)	(3%)	2,177			
Accountants and Auditors (13-2011)	18,968	19,275	307	2%	1,738	\$25.42	\$34.83	\$47.21
Above Middle-Skill Subtotal	18,968	19,275	307	2%	1,738			
Total	39,057	38,676	(381)	(0.9%)	3,915			

Exhibit 6. Los Angeles County

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Bookkeeping, Accounting, and Auditing Clerks (43-3031)	50,873	48,387	(2,487)	(5%)	5,470	\$18.56	\$23.64	\$29.20
Middle-Skill Subtotal	50,873	48,387	(2,487)	(5%)	5,470			
Accountants and Auditors (13-2011)	48,988	48,249	(739)	(2%)	4,228	\$26.71	\$36.62	\$49.63
Above Middle-Skill Subtotal	48,988	48,249	(739)	(2%)	4,228			
Total	99,862	96,636	(3,226)	(3%)	9,703			

Exhibit 7. Los Angeles and Orange Counties

Occupation (SOC)	2020 Jobs	2025 Jobs	5-Yr Change	5-Yr % Change	Annual Openings
Bookkeeping, Accounting, and Auditing Clerks (43-3031)	70,963	67,788	(3,175)	(4%)	7,648
Middle-Skill Subtotal	70,963	67,788	(3,175)	(4%)	7,648
Accountants and Auditors (13-2011)	67,956	67,524	(432)	(1%)	5,971
Above Middle-Skill Subtotal	67,956	67,524	(432)	(1%)	5,971
Total	138,919	135,312	(3,607)	(3%)	138,919

Appendix B: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (Emsi)

- Bureau of Labor Statistics (BLS)
- Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- California Family Needs Calculator, Insight Center for Community Economic Development
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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