

Program Endorsement Brief: 0201.00/Architecture and Architectural Technology *Architectural CAD Technology*

Orange County Center of Excellence, June 2019

Summary

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 architectural and civil drafters (SOC 17-3011). 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 relevant occupations.

The following summarizes key findings from this data brief:

- The number of jobs for architectural and civil drafters is projected to **increase by 2% through 2023**. More than **550 job openings** will be available annually due to new job growth and replacement need.
- In the past 12 months, there were **1,241 online job postings** for architectural and civil drafters throughout Los Angeles and Orange Counties.
- The typical entry-level education for this occupation is an associate degree. The national-level educational attainment data indicates **61.6% of workers in the field have completed some college or an associate degree**.
- There are **20 community colleges** in the region that have architecture and/or drafting programs. Of these colleges, 14 colleges are located in Los Angeles County and six colleges are located in Orange County.
- Between 2015 and 2018, community colleges in the region **conferred an average of 545 awards annually** (associate degrees and certificates) in related training programs under related TOP Codes.
- Between June 2018 and May 2019, **10 related program recommendation requests under related TOP Codes (0201.00, 0953.00, and 0953.10)** were received.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for architectural and civil drafters. In Los Angeles/Orange County, the number of jobs related to this occupation is projected to increase by 2% through 2023. There will be 557 job openings per year through 2023.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties¹

Geography	2018 Jobs	2023 Jobs	2018-2023 Change	2018-2023 % Change	Annual Openings
Los Angeles	4,293	4,382	89	2%	383
Orange	1,952	1,987	35	2%	174
Total	6,246	6,369	123	2%	557

¹ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Wages—Average entry-level and median hourly wages for architectural and civil drafters throughout the region are \$18.62 and \$28.31, respectively.² Average entry-level wages for this occupation are higher than the MIT Living hourly wage for one adult in the region (\$14.36 in Los Angeles County and \$15.85 in Orange County). Typically, experienced workers earn \$40.75, which is higher than the living wage estimates for both counties. Regional average wages are below the average statewide wage of \$29.15 for this occupation. Wage information, by county, is included in Appendix A.

Job Postings—There were 1,241 online job postings related to architectural and civil drafters listed in the past 12 months. The highest number of job postings were for CAD drafter, CAD designer, CAD technician, CAD operator and plumbing designer. The top specialized skills were: computer aided drafting/design (CAD), Revit, calculation, project management and 3D modeling/design. The top employers, by number of job postings, in the region were: WorleyParsons, Edison International, Jacobs Engineering Group, and Amheart Solutions.

Educational Attainment—The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education required for architectural and civil drafters. The national-level educational attainment data indicates that 61.6% of workers in the field have completed some college or an associate degree. Of the 36% of job postings listing a minimum education requirement in Los Angeles/Orange County, 42% (186) request a high school diploma or vocational training and 58% (258) request an associate degree.

Community College Supply

Exhibit 2 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Architecture and Architectural Technology (0201.00), Drafting Technology (0953.00), and Architectural Drafting (0953.10). Mt. San Antonio and East LA have the most completions in the region. Between January 2018 and May 2019, there were ten other related program recommendation requests from regional community colleges.

Exhibit 2: Regional community college awards (certificates and degrees), 2015-2018

TOP Code	Program	College	2014-15 Awards	2015-16 Awards	2016-2017 Awards	3-Year Award Average
0201.00	Architecture and Architectural Technology	Cerritos	16	20	17	18
		Citrus	0	0	2	1
		Compton	2	0	0	1
		East LA	103	25	34	54
		El Camino	18	21	35	25
		Fullerton	8	9	8	8
		Glendale	4	3	4	4
		LA Harbor	14	10	5	10
		LA Pierce	7	4	8	6

² Entry-level wage is defined as the tenth percentile hourly wage. Wages for experienced workers are defined as the ninetieth percentile hourly wage.

TOP Code	Program	College	2014-15 Awards	2015-16 Awards	2016-2017 Awards	3-Year Award Average
		LA Trade-Tech	8	9	8	8
		LA Valley	3	2	4	3
		Long Beach	6	12	10	9
		Mt San Antonio	19	67	82	56
		Orange Coast	34	43	82	53
		Pasadena	7	5	11	8
		Rio Hondo	17	13	19	16
		Saddleback	6	14	12	11
		Subtotal/Average	272	257	341	290
0953.00	Drafting Technology	Cerritos	45	41	48	45
		Citrus	7	2	6	5
		East LA	41	33	38	37
		El Camino	14	11	15	13
		Fullerton	8	8	11	9
		Golden West	16	17	18	17
		Irvine	3	5	0	3
		LA Harbor	5	2	1	3
		LA Pierce	3	8	7	6
		LA Valley	1	2	4	2
		Mt San Antonio	30	45	34	36
		Pasadena	2	0	21	8
		Rio Hondo	19	9	93	40
		Saddleback	2	0	2	1
		Santa Ana	8	20	23	17
		Subtotal/Average	204	203	321	243
0953.10	Architectural Drafting	Citrus	0	1	0	0
		Fullerton	0	0	4	1
		Long Beach	4	12	8	8
		Santa Ana	1	3	3	2
		Subtotal/Average	5	16	15	12
		Total/Average	481	476	677	545

Appendix A: Occupational demand and wage data by county

Exhibit 3. Los Angeles County

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Architectural and Civil Drafters (17-3011)	4,293	4,382	89	2%	383	\$18.49	\$28.47	\$41.27

Exhibit 4. Orange County

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Architectural and Civil Drafters (17-3011)	1,952	1,987	35	2%	174	\$18.86	\$27.92	\$39.18

Exhibit 5. Los Angeles and Orange Counties

Occupation (SOC)	2018 Jobs	2023 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
Architectural and Civil Drafters (17-3011)	6,246	6,369	123	2%	557	\$18.62	\$28.31	\$40.75

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
- Employment Development Department, Unemployment Insurance Dataset
- Living Insight Center for Community Economic Development
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- MIT Living Wage
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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