

Labor Market Analysis for Program Modification:
 0953.10/Architectural Drafting
 (Architecture Associate in Science Degree)
 (Architectural CAD Technology Certificate)
 (Architecture Mini CAD Certificate)

Orange County Center of Excellence, May 2025



Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met <input type="checkbox"/>	Endorsed: Some LMI Criteria Met <input checked="" type="checkbox"/>	Not LMI Endorsed <input type="checkbox"/>
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Program LMI Endorsement Criteria

	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Supply Gap:	Comments: there is projected to be 491 annual job openings throughout Los Angeles and Orange counties for <i>architectural and civil drafters</i> , which is more than the 337 awards conferred by educational institutions.	
Self-Sufficiency Standard Living Wage ¹ :	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Comments: entry-level wages for <i>architectural and civil drafters</i> are \$27.07 , which is slightly below the OC living wage of \$27.13.	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Comments: typical entry-level education for <i>architectural and civil drafters</i> is an associate degree, and 61% of workers in the field have completed some college or an associate degree as their highest level of education.	

Additional Considerations

	Yes <input type="checkbox"/>	Some <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Emerging Occupation(s):	Comments: N/A		
OC Resilient Job(s):	Yes <input checked="" type="checkbox"/>	Some <input type="checkbox"/>	No <input type="checkbox"/>
	Comments: See Resilient Jobs and US News & World Report Best Jobs		
U.S. News & World Report 2025 Best Jobs List ² :	Yes <input type="checkbox"/>	Some <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Comments: See Resilient Jobs and US News & World Report Best Jobs		

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to one middle-skill occupation:

- *Architectural and Civil Drafters (17-3011)*

¹ At the direction of the California Community College Chancellor's Office, the living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage, to determine Orange County's living wage of \$27.13, last updated in March 2024.

² "100 Best Jobs," U.S. News & World Report, accessed January 28, 2025, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.

Based on the available data there appears to be a supply gap for *architectural and civil drafters* and typical education requirements for this occupation align with a community college education. However, entry-level wages are slightly below the Self-Sufficiency Standard living wage. **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the occupations included in this report.

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25 th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Architectural and Civil Drafters (17-3011)	LA: 293 OC: 199	LA: 264 OC: 73	OC: \$27.07	Associate degree	61%
Total	491	337	N/A	N/A	N/A

Demand:

- The number of jobs related to *architectural and civil drafters* is projected to increase by 2% through 2028, equating to 491 annual job openings.
- Hourly entry-level wages for *architectural and civil drafters* are \$27.07 in Orange County, which is slightly below the Self-Sufficiency Standard living wage.
- There were 1,665 online job postings for *architectural and civil drafters* over the past 12 months. The highest number of postings were for designers, architectural designers, and civil/structural designers.
- The typical entry-level education for *architectural and civil drafters* is an associate degree.
- Approximately 61% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply:

- There was an average of 337 awards conferred by 18 community colleges in Los Angeles and Orange Counties from 2020 to 2023.
- No awards were conferred by non-community college institutions from 2019 to 2022.
- Orange County community college students that exited architectural drafting programs in the 2020-21 academic year had a median annual wage of \$38,478 (\$18.50 per hour) after exiting the program and 42% attained the regional living wage.
- Due to a low number of students, student outcome data is not available for students employed in job closely related to their field of study.

Demand

Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for *architectural and civil drafters* from 2018 through 2028. Though there was a 7% decline across all occupations in Los Angeles and Orange counties from 2019 to 2020 due to the COVID-19 pandemic, employment for *architectural and civil drafters* stagnated during the same period.

In the two years preceding the pandemic, employment for this occupation fluctuated in Orange County, with a period of stagnation in 2019 following a decline in 2018. After a stagnation in employment in 2020, employment increased in 2021, remained flat in 2022, and increased again in 2023. Employment for this occupation in Orange County is projected to grow through 2028, experiencing a similar rate relative to all occupations in Los Angeles and Orange counties.

Exhibit 2: Annual Percent Change in Jobs for Architectural and Civil Drafters, 2018-2028

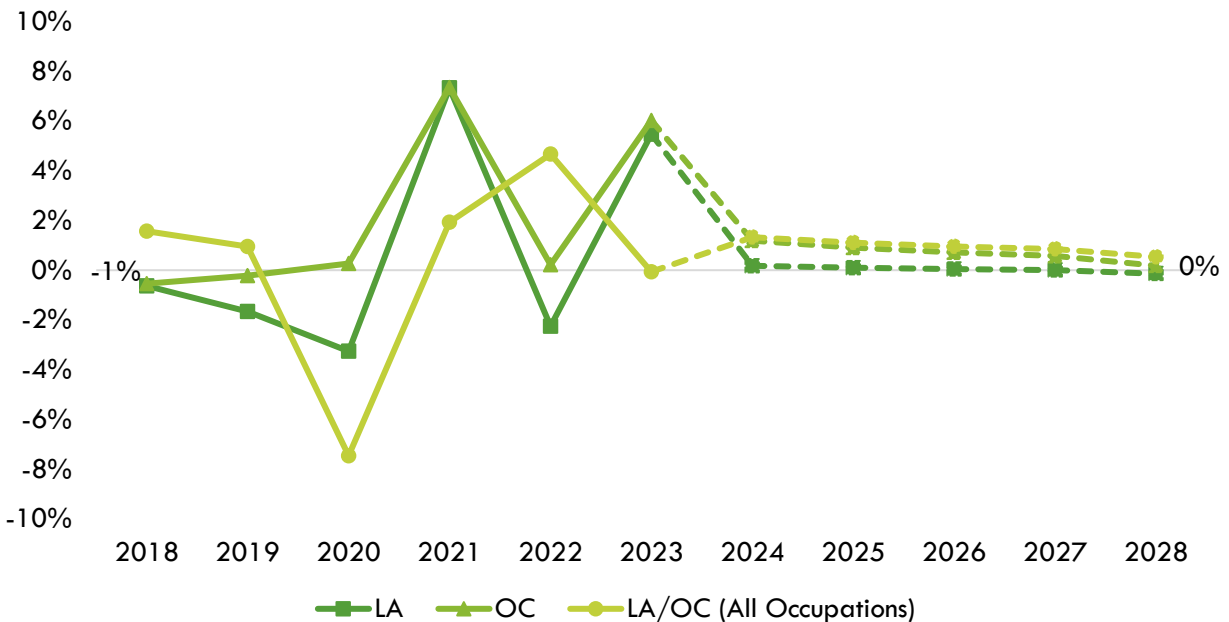


Exhibit 3 shows the five-year occupational demand projections for *architectural and civil drafters*. In Los Angeles/Orange County, the number of jobs related to this occupation is projected to increase by 2% through 2028. There is projected to be 491 jobs available annually.

Exhibit 3: Occupational Demand in Los Angeles and Orange Counties³

Geography	2023 Jobs	2028 Jobs	2023-2028 Change	2023-2028 % Change	Annual Openings
Los Angeles	3,135	3,140	6	0%	293
Orange	1,958	2,029	71	4%	199
Total	5,093	5,169	76	2%	491

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.

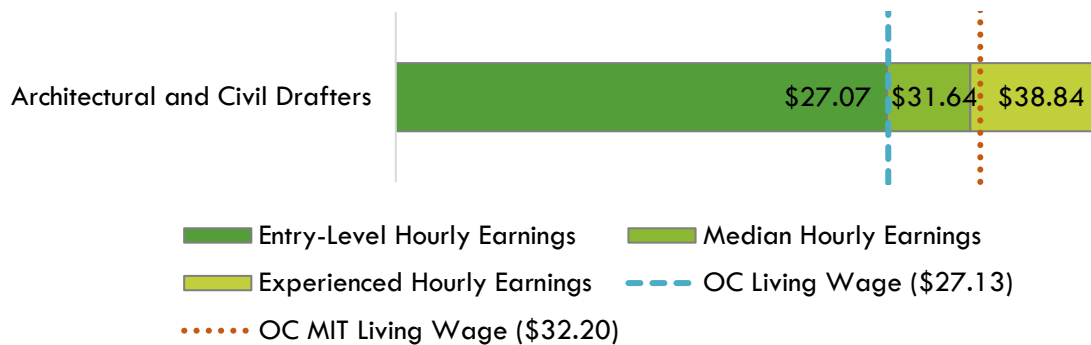
Wages:

The labor market endorsement in this report considers the entry-level hourly wages for *architectural and civil drafters* in Orange County as they relate to the county's living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC region.

At the direction of the California Community College Chancellor's Office, the living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage, to determine Orange County's living wage of \$27.13, last updated in March 2024. Additionally, data for the MIT Living Wage, updated on February 10, 2025, is provided as a reference. Currently, the MIT Living Wage in Orange County is \$32.20. Both figures, which account for geographic-specific costs of necessities such as housing, food, health care, and transportation to assess the cost of living, are notated in the exhibits below.

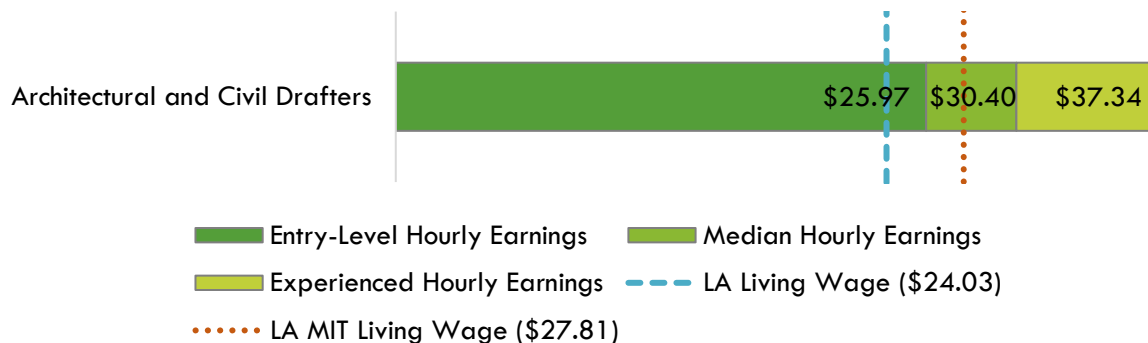
Entry-level hourly wages for *architectural and civil drafters* are \$27.07, which is slightly below the Self-Sufficiency Standard living wage for one adult (\$27.13 in Orange County). The median hourly wage is \$31.64, which is significantly above the Self-Sufficiency Standard living wage. Orange County's average wages of \$34.18 are below the average statewide wage of \$35.65 for this occupation. Exhibit 4 shows the wage range for *architectural and civil drafters* in Orange County and how they compare to the regional living wage.

Exhibit 4: Wages by Occupation in Orange County



Entry-level hourly wages for *architectural and civil drafters* are \$25.97, which is above the Self-Sufficiency Standard living wage for one adult (\$24.03 in Los Angeles County). Los Angeles County's average wages of \$32.87 are below the average statewide wage of \$35.65 for this occupation. Exhibit 5 shows the wage range for *architectural and civil drafters* in Los Angeles County and how they compare to the regional living wage.

Exhibit 5: Wages by Occupation in Los Angeles County



Resilient Jobs and U.S. News & World Report Best Jobs:

Exhibit 6 shows if each occupation is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2025 U.S. News & World Report (USN&WR) Best Job. *Architectural and civil drafters* only met the criteria to be considered a COVID-19 Recession-Resilient Job.

Exhibit 6: Resilient Jobs and USN&WR Best Jobs Designations

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2025 USN&WR Best Job
Architectural and Civil Drafters	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Job Postings:

Important Online Job Postings Data Note: Online job postings data is sourced from Lightcast, a labor market analytics firm that scrapes, collects, and organizes data from online job boards such as LinkedIn, Indeed, Glassdoor, Monster, GovernmentJobs.com, and thousands more. Lightcast uses natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. However, NLP has limitations that include understanding contextual words of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.⁴ For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast's database.

Additionally, there are several limitations when analyzing job postings. A single job posting may not represent a single job opening, as employers may be creating a pool of candidates for future openings or hiring for multiple positions with a single posting. Additionally, not all jobs are posted online, and jobs may be filled through other methods such as internal promotion, word-of-mouth advertising, physical job boards, or a variety of other channels.

There were 1,665 online job postings related to *architectural and civil drafters* listed in the past 12 months. Exhibit 7 shows the number of job postings by occupation.

Exhibit 7: Number of Job Postings by Occupation (n=1,665)

Occupation	Job Postings	Percentage of Job Postings
Architectural and Civil Drafters	1,665	100%
Total Postings	1,665	100%

The top employers in the region, by number of job postings, are shown in Exhibit 8.

Exhibit 8: Top Employers by Number of Job Postings (n=1,665)

Employer	Job Postings	Percentage of Job Postings
Csi Electrical Contractors	89	5%
GPAC	40	2%
Gensler	40	2%
HNTB	29	2%
AECOM	27	2%

⁴ K. R. Chowdhary, *Fundamentals of Artificial Intelligence* (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>.

Employer	Job Postings	Percentage of Job Postings
Actalent	25	2%
Stantec	20	1%
CyberCoders	17	1%
Lpa	15	1%
Mve + Partners	15	1%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 9.

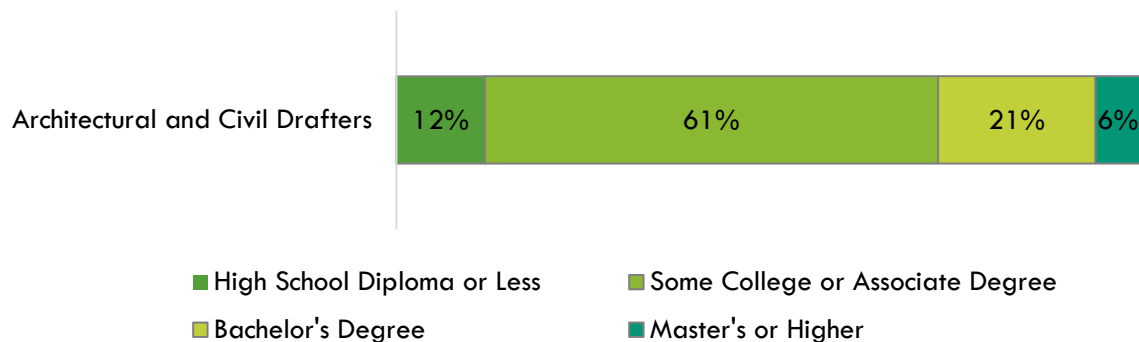
Exhibit 9: Top Skills by Number of Job Postings (n=1,665)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
AutoCAD (827)	Communication (805)	AutoCAD (827)
Autodesk Revit (727)	Presentations (487)	Autodesk Revit (727)
Project Management (596)	Coordinating (461)	SketchUp (3D Modeling Software) (421)
SketchUp (3D Modeling Software) (421)	Planning (421)	Microsoft Office (371)
Construction (413)	Microsoft Office (371)	Adobe Photoshop (319)
Adobe Photoshop (319)	Detail Oriented (363)	Rhinoceros 3D (267)
Building Codes (296)	Problem Solving (336)	Adobe Illustrator (243)
Computer-Aided Design (291)	Research (314)	AutoCAD Civil 3D (213)
Rhinoceros 3D (267)	Innovation (238)	Adobe InDesign (191)
Construction Management (261)	Leadership (236)	Adobe Creative Suite (190)

Educational Attainment:

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for *architectural and civil drafters*. However, the national-level educational attainment data indicates 61% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 10 shows the educational attainment for each occupation.

Exhibit 10: National-level Educational Attainment for Occupations



Of the 62% of the cumulative job postings for *architectural and civil drafters* that listed a minimum education requirement in Los Angeles/Orange County, 83% (867) requested a bachelor's degree, and 14% (145) requested a high school diploma or an associate degree.

Educational Supply

The following supply tables displays the total supply for *architectural and civil drafters* that align with these TOP/CIP codes and program needs.

Community College Supply:

Exhibit 11 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Architecture and Architectural Technology (0201.00)
- Architectural Drafting (0953.10)

The colleges with the most completions in the region are Mt. San Antonio, Orange Coast, and East LA. Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

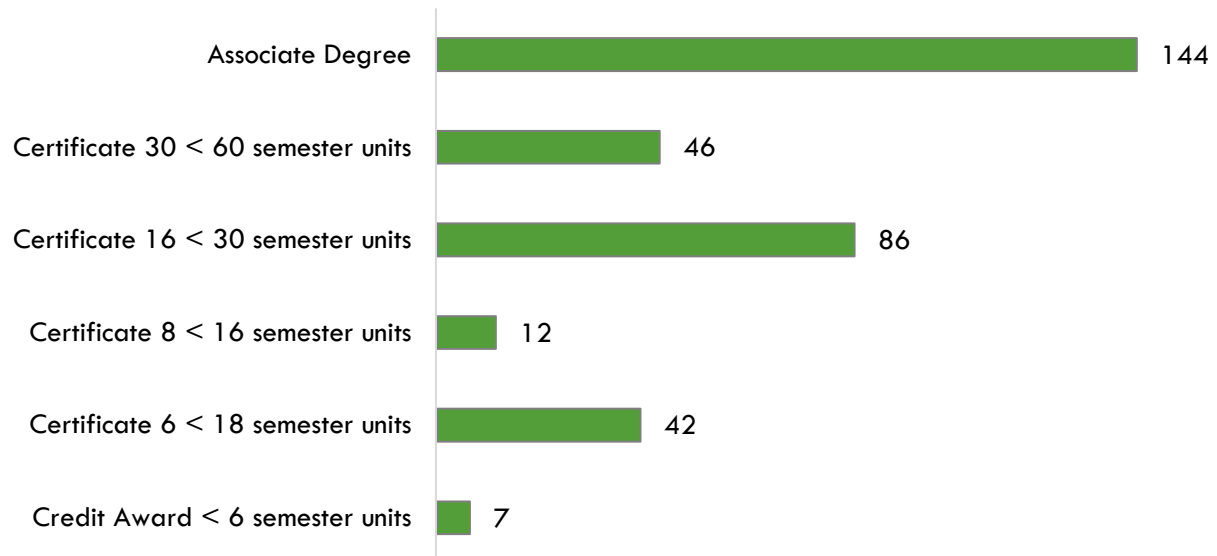
Exhibit 11: Regional Community College Awards (Certificates and Degrees), 2020-2023

TOP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average	
0201.00	Architecture and Architectural Technology	Cerritos	28	15	48	30	
		Citrus	6	7	5	6	
		East LA	16	23	66	35	
		El Camino	5	15	13	11	
		Glendale	3	17	19	13	
		LA Harbor	4	13	7	8	
		LA Pierce	16	11	8	12	
		LA Trade	7	13	12	11	
		LA Valley	4	3	2	3	
		Long Beach	11	9	9	10	
		Mt San Antonio	61	95	76	77	
		Pasadena	12	12	9	11	
		Rio Hondo	3	8	9	7	
		Santa Monica	0	0	4	1	
		LA Subtotal		176	241	287	235
		Fullerton	4	0	7	4	
		Orange Coast	38	75	57	57	
		Saddleback	3	4	4	4	
		OC Subtotal		45	79	68	64
		Supply Subtotal/Average			221	320	355
0953.10	Architectural Drafting	Citrus	1	2	0	1	
		Long Beach	5	3	2	3	
		Pasadena	0	0	2	1	

TOP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
		Rio Hondo	6	39	28	24
		LA Subtotal	12	44	32	29
		Fullerton	1	8	17	9
		Santa Ana	2	0	0	1
		OC Subtotal	3	8	17	9
Supply Subtotal/Average			15	52	49	39
Supply Total/Average			236	372	404	337

Exhibit 12 shows the annual average community college awards by type from 2020-21 to 2022-23. The plurality of the awards are for associate degree, followed by certificates between 16 and less than 30 semester units and certificates between 30 and less than 60 semester units.

Exhibit 12: Annual Average Community College Awards by Type, 2020-2023



Community College Student Outcomes:

Exhibit 13 shows the Strong Workforce Program (SWP) metrics for architectural drafting programs in North Orange County Community College District (NOCCCD), the Orange County Region, and California. Of the 183 Orange County architectural drafting students in the 2021-22 academic year, 89% (163) attended an NOCCCD college.

NOCCCD students that exited architectural drafting programs in the 2021-22 academic year had slightly lower median annual earnings (\$37,820 or \$18.18 per hour) compared to all architectural drafting students in Orange County (\$38,478 or \$18.50 per hour). Due to a low number of students, student outcome data for living wage is not available at the district level. However, a lower percentage of Orange County architectural drafting students attained the living wage (42%) when compared to all architectural drafting students statewide (58%).

Exhibit 13: Architectural Drafting (0953.10) Strong Workforce Program Metrics, 2021-22⁵

SWP Metric	SOCCCD	OC Region	California
SWP Students	163	183	1,478
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	44%	44%	40%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Insufficient Data	23%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	Insufficient Data	77
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	Insufficient Data	Insufficient Data	53
SWP Students with a Job Closely Related to Their Field of Study (2019-20)	Insufficient Data	Insufficient Data	67
Median Annual Earnings for SWP Exiting Students (2020-21)	\$37,820 (\$18.18)	\$38,478 (\$18.50)	\$43,096 (\$20.72)
Median Change in Earnings for SWP Exiting Students (2020-21)	32%	41%	40%
SWP Exiting Students Who Attained the Living Wage (2020-21)	Insufficient Data	42%	58%

Non-Community College Supply:

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering architectural drafting programs. However, from 2019-2022, no awards were conferred under the related Classification of Instructional Programs (CIP) code:

- Architectural Technology/Technician (04.0901)
- CAD/CADD Drafting and/or Design Technology/Technician (15.1302)
- Architectural Drafting and Architectural CAD/CADD (15.1303)

⁵ All SWP metrics are for 2021-22 unless otherwise noted.

Regional Demographics

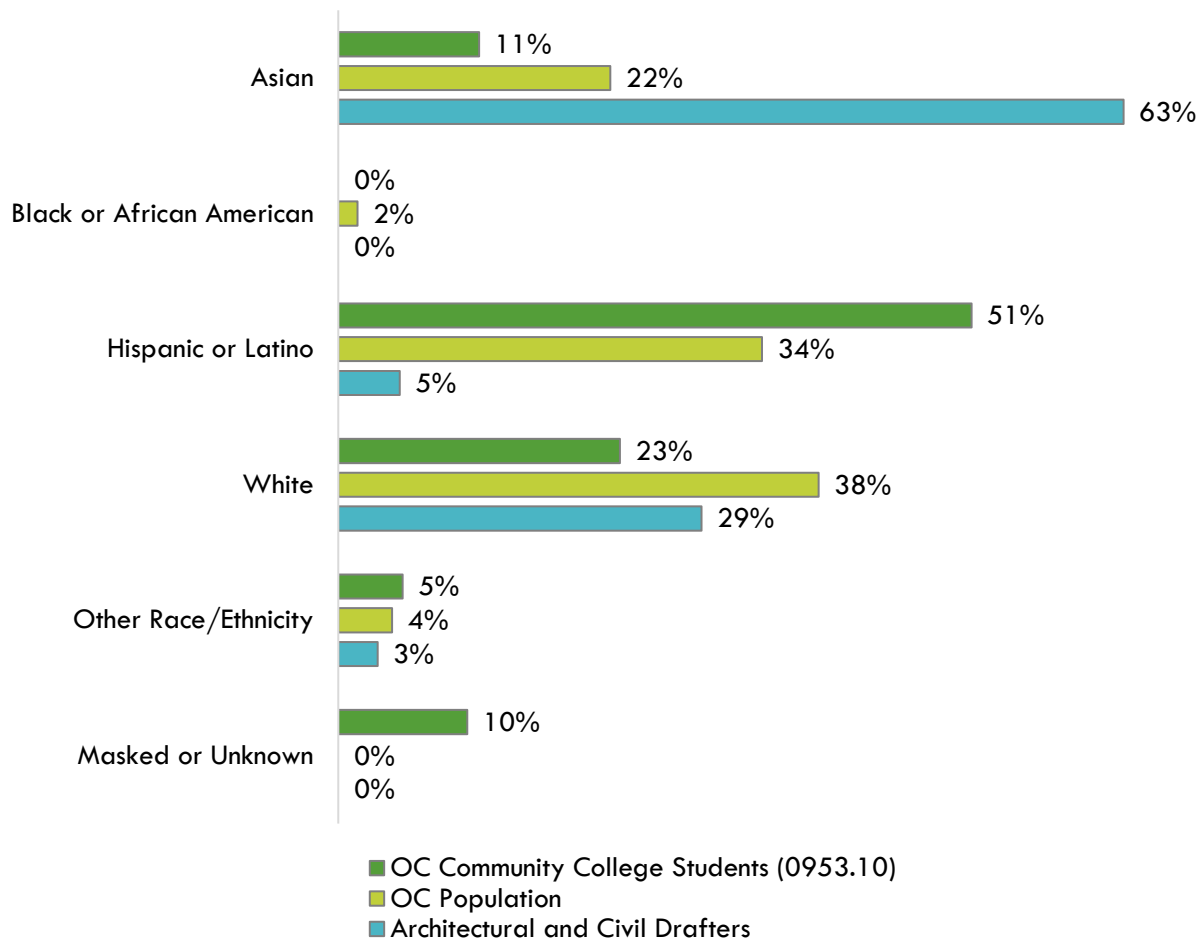
This section examines demographic data for Orange County community college students in architectural drafting programs compared to the OC population, along with occupational data, to identify potential diversity and equity issues addressable by community college programs.

Ethnicity:

Exhibit 15 compares the ethnicity of Orange County community college students enrolled in architectural drafting programs, the overall Orange County population, and occupation-specific data for *architectural and civil drafters*.

Notably, 63% of workers employed as *architectural and civil drafters* are Asian, nearly three-times the population (22%) and six-times higher than community college architectural drafting students (11%). Conversely, only 5% of workers in the field are Hispanic or Latino, which is substantially lower than the population (34%) and community college architectural drafting students (51%).

Exhibit 14: Program and County Demographics by Ethnicity

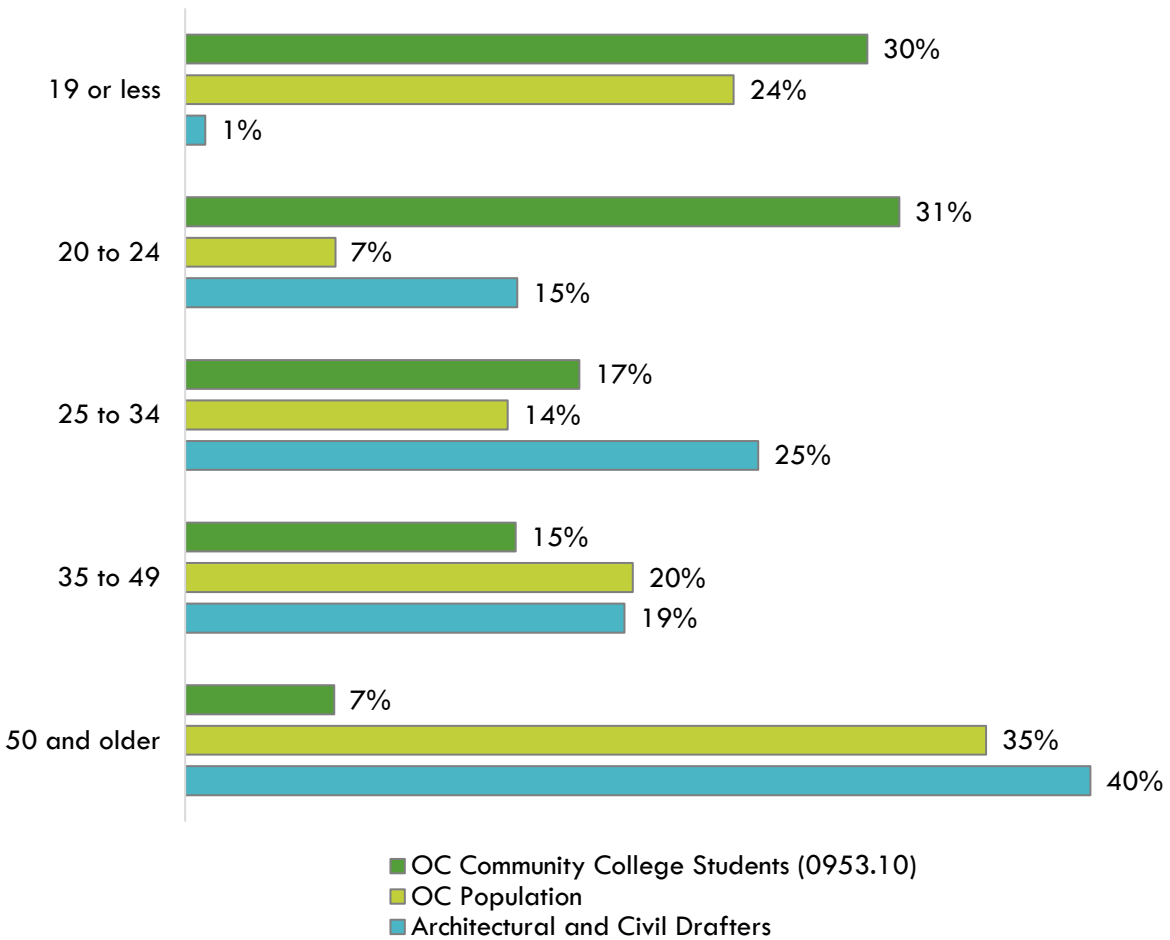


Age:

Exhibit 16 compares the age of Orange County community college students enrolled in architectural drafting programs, the overall Orange County population, and occupation-specific data for *architectural and civil drafters*.

Nearly 40% of workers employed as *architectural and civil drafters* are aged 50 and older, which is higher than the population (35%) and significantly higher than community college architectural drafting students (7%). Conversely, 16% of workers are aged 24 and younger, which is significantly lower than the population (31%) and community college architectural drafting students (61%).

Exhibit 15: Program and County Demographics by Age

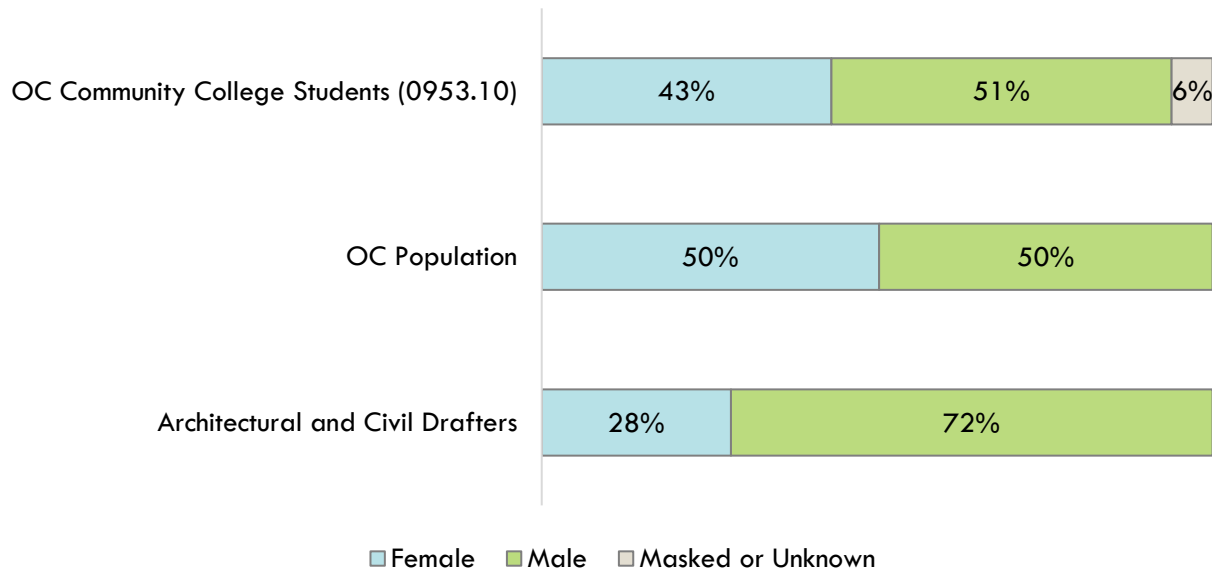


Sex:

Exhibit 17 compares the sex of Orange County community college students enrolled in architectural drafting programs, the overall Orange County population, and occupation-specific data for *architectural and civil drafters*.

Though the population is split evenly between women and men, only 43% of community college architectural drafting students and 28% of workers in the field are women.

Exhibit 16: Program and County Demographics by Sex



Appendix A: Methodology

The OC COE prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies. Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

The OC COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a "supply table" with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP code data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS. TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Data included in this analysis represent the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees but is not a perfect measure of the quantity of open positions.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	<p>Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see https://lightcast.io/</p>
Living Wage	<p>“Living Wage” measures the income necessary for an individual or family to afford basic expenses by assessing the costs such as housing, food, child care, health care, transportation, and taxes.</p> <p>Per the CCCCCO’s this report’s endorsement criteria uses the University of Washington’s Center for Women’s Welfare Self-Sufficiency Standard last updated in March 2024, which is \$27.13 per hour (\$56,451 annually) in Orange County. For more information, see: http://www.selfsufficiencystandard.org/California</p> <p>The MIT Living Wage, updated on February 10, 2025, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is \$32.20. For more information, see: https://livingwage.mit.edu/counties/06059</p>
Typical Education and Training Requirements, and Educational Attainment	<p>The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see https://www.bls.gov/emp/documentation/education/tech.htm</p>
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	<p>The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see https://www.onetonline.org/help/online/</p>
Educational Supply	<p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu</p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</p>
Student Metrics and Demographics	<p>LaunchBoard, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: https://www.calpassplus.org/LaunchBoard/Home.aspx</p>

Data Type	Source
Population and Occupation Demographics	<p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: https://www.census.gov/programs-surveys/acs</p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: https://usa.ipums.org/usa/about.shtml</p>

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May 2025

