

Labor Market Analysis: 0936.00/Printing and Lithography

Screen Printing - Certificate requiring 16 to fewer than 30 semester units

Los Angeles Center of Excellence, October 2023

Summary

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 Los Angeles Center of Excellence for Labor Market Research (LA COE) prepared this report to provide regional labor market supply and demand data related to two middle-skill occupations:

- **Prepress Technicians and Workers (51-5111)** Format and proof text and images submitted by designers and clients into finished pages that can be printed. Includes digital and photo typesetting. May produce printing plates.¹
- **Printing Press Operators (51-5112)** Set up and operate digital, letterpress, lithographic, flexographic, gravure, or other printing machines. Includes short-run offset printing presses.²

Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.³ 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 these middle-skill printing occupations in the region. While entry-level wages are lower than the self-sufficiency standard wage in both Los Angeles and Orange counties, approximately one-third of current workers in the field have completed some college or an associate degree. **Therefore, due to some of the criteria being met, the LA COE endorses this proposed program.** Detailed reasons include:

¹ [Prepress Technicians and Workers \(bls.gov\)](#)

² [Printing Press Operators \(bls.gov\)](#)

³ The COE classifies middle-skill jobs as the following:

- 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.

Demand:

- **Supply Gap Criteria** – Over the next five years, **779 jobs are projected to be available annually** in the region due to retirements and workers leaving the field, **which is more than the three-year average of 54 awards conferred** by educational institutions in the region.
- **Living Wage Criteria** – Within Los Angeles County, both occupations have **entry-level wages below the self-sufficiency standard hourly wage** (\$18.10/hour).⁴
- **Educational Criteria** – Within the greater LA/OC region, **86% of the annual job openings** for middle-skill occupations related to printing **typically require a high school education**.
 - However, the national-level educational attainment data indicates **between 33% and 39% of workers in the field have completed some college or an associate degree**.

Supply:

- There are **9 community colleges** in the greater LA/OC region that issue awards related to printing and/or commercial art, conferring an average of **53 awards annually** between 2019 and 2022.
- Between 2019 and 2021, there was an average of **1 award conferred annually** in related training programs by non-community college institutions throughout the greater LA/OC region.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these middle-skill printing occupations. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to decrease by 13% through 2026. However, there will be nearly 800 job openings per year through 2027 due to retirements and workers leaving the field.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties⁵

Geography	2022 Jobs	2027 Jobs	2022-2027 Change	2022-2027 % Change	Annual Openings
Los Angeles	4,906	4,161	(745)	(15%)	513
Orange	2,459	2,237	(221)	(9%)	266
Total	7,364	6,398	(966)	(13%)	779

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these middle-skill printing occupations in Los Angeles County as they relate to the county's self-sufficiency standard wage. Orange County wages are included below in order to provide a

⁴ Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

⁵ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

complete analysis of the greater LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County

Both occupations have entry-level wages below the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$16.74 and \$17.12. Experienced workers can expect to earn wages between \$23.88 and \$26.98, which are higher than the self-sufficiency standard.

Exhibit 2: Earnings for Occupations in LA County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Prepress Technicians and Workers (51-5111)	\$17.12	\$22.29	\$26.98	\$46,400
Printing Press Operators (51-5112)	\$16.74	\$18.93	\$23.88	\$39,400

*Rounded to the nearest \$100

Orange County

Both occupations have entry-level wages below the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages are in a range between \$17.43 and \$17.61. Experienced workers can expect to earn wages between \$24.58 and \$27.73, which are higher than the self-sufficiency standard.

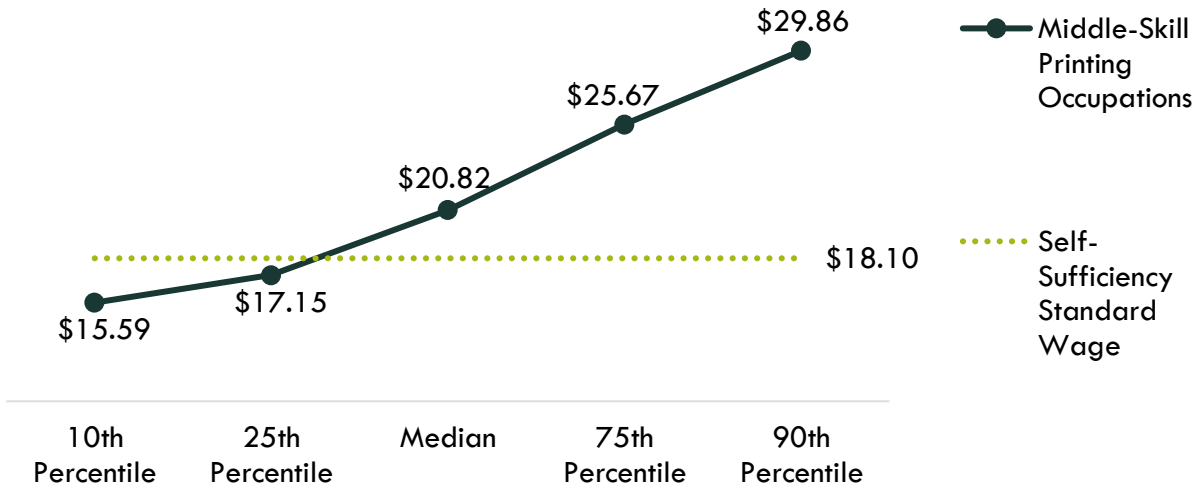
Exhibit 3: Earnings for Occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)	Median Annual Earnings*
Prepress Technicians and Workers (51-5111)	\$17.61	\$22.93	\$27.73	\$47,700
Printing Press Operators (51-5112)	\$17.43	\$19.55	\$24.58	\$40,700

*Rounded to the nearest \$100

On average, the entry-level earnings for the occupations in this report are \$17.15; this is below the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 4 shows the average wage for the occupations in this report, from entry-level to experienced workers.

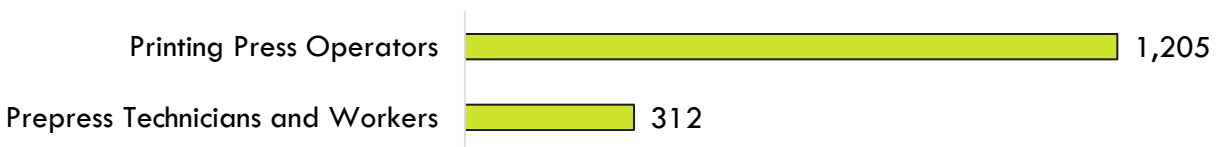
Exhibit 4: Average Hourly Earnings for Middle-Skill Printing Occupations in LA/OC



Job Postings

There were 1,517 online middle-skill job postings related to printing occupations listed in the past 12 months. Exhibit 5 displays the number of job postings by occupation. The majority of job postings (79%) were for *printing press operators*, followed by *prepress technicians* (21%). The highest number of job postings were for screen printers, print operators, digital print operators, flexographic press operators, and screen print operators. The top skills were screen printing, digital printing, warehousing, machinery, and flexography. The top three employers, by number of job postings, in the region were all staffing companies Randstad, ResourceMFG, and Aerotek.

Exhibit 5: Job postings by occupation (last 12 months)



Educational Attainment

The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

- **Postsecondary non-degree award:** *Prepress technician and workers*
- **High school diploma or equivalent:** *Printing press operators*

In the greater LA/OC region, the majority of annual job openings (86%) typically require a high school diploma or equivalent. However, the national-level educational attainment data indicates between 33% and 39% of workers in the field have completed some college or an associate degree. Of the 38% of middle-skill printing job postings listing a minimum education requirement in the greater Los Angeles/Orange County region, 98% (559) requested high school or vocational training, and 2% (12) requested an associate degree.

Educational Supply

Community College Supply

Exhibit 6 shows the annual and three-year average number of awards conferred by community colleges in the related TOP codes: Printing and Lithography (0936.00), and Commercial Art (1013.00). The colleges with the most completions in the region are LA Trade-Tech, LA Valley, and Fullerton.

Exhibit 6: Regional community college awards (certificates and degrees), 2019-2022

TOP	Program	College	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
0936.00	Printing and Lithography	Fullerton	-	1	3	1
		Saddleback	4	-	1	2
		OC Subtotal	4	1	4	3
Supply Subtotal/Average			4	1	4	3
1013.00	Commercial Art	El Camino	-	-	1	0
		LA Trade-Tech	23	22	33	26
		LA Valley	7	14	8	10
		Pasadena	-	2	6	3
		LA Subtotal	30	38	48	39
		Cypress	1	-	-	0
		Fullerton	2	5	5	4
		Orange Coast	5	1	9	5
		Santa Ana	1	3	1	2
		OC Subtotal	9	9	15	11
Supply Subtotal/Average			39	47	63	50
Supply Total/Average			43	48	67	53

Non-Community College Supply

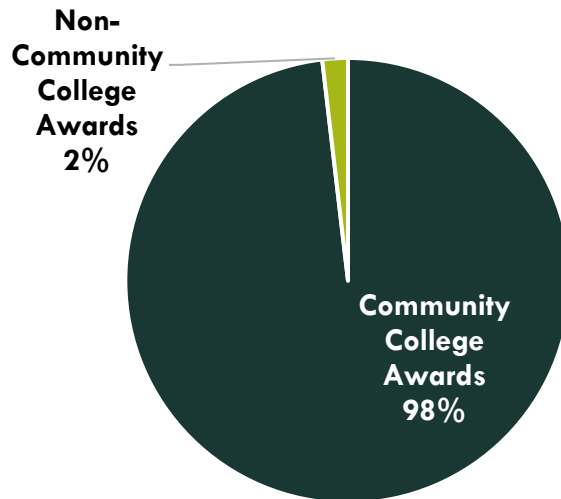
For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs for middle-skill printing occupations. Exhibit 7 shows the annual and three-year average number of awards conferred by this institution in relevant programs. Due to different data collection periods, the most recent three-year period of available data is from 2019 to 2021. Between 2019 and 2021, non-community college institutions in the region conferred an average of 1 sub-baccalaureate award. Sub-baccalaureate awards include associate degrees, postsecondary awards, and other academic awards.

Exhibit 7: Regional non-community college awards, 2019-2021

CIP	Program	Institution	2019-20 Awards	2020-21 Awards	2-Year Average
50.0402	Commercial and Advertising Art	Mount Saint Mary's University	1	-	1
Supply Total/Average			1	-	1

Exhibit 8 shows the proportion of community college awards conferred in LA/OC compared to the number of non-community college awards for the programs in this report. The vast majority of awards conferred in these programs are awarded by community colleges in the LA/OC region.

Exhibit 8: Community College Awards Compared to Non-Community College Awards in LA/OC Region, 3-Year Average



Appendix A: Occupational demand and wage data by county

Exhibit 9. Los Angeles County

Occupation (SOC)	2022 Jobs	2027 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)
Prepress Technicians and Workers (51-5111)	583	480	(102)	(18%)	70	\$17.12	\$22.29	\$26.98
Printing Press Operators (51-5112)	4,323	3,681	(642)	(15%)	443	\$16.74	\$18.93	\$23.88
Total	4,906	4,161	(745)	(15%)	513	-	-	-

Exhibit 10. Orange County

Occupation (SOC)	2022 Jobs	2027 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Prepress Technicians and Workers (51-5111)	311	275	(35)	(11%)	39	\$17.61	\$22.93	\$27.73
Printing Press Operators (51-5112)	2,148	1,962	(186)	(9%)	227	\$17.43	\$19.55	\$24.58
Total	2,459	2,237	(221)	(9%)	266	-	-	-

Exhibit 11. Los Angeles and Orange Counties

Occupation (SOC)	2022 Jobs	2027 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	% Age 55 and older*	Typical Entry-Level Education
Prepress Technicians and Workers (51-5111)	893	755	(138)	(15%)	109	32%	Postsecondary non-degree award
Printing Press Operators (51-5112)	6,471	5,643	(828)	(13%)	670	30%	HS diploma or equivalent
Total	7,364	6,398	(966)	(13%)	779	-	-

*The average percentage of workers aged 55 and older across all occupations in the greater LA/OC region is 27%. These occupations have a larger share of older workers, which typically indicates greater replacements needs to offset the amount of impending retirements.

Appendix B: Sources

- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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