

# Labor Market Analysis for Program Modification: 0599.00/Other Business and Management (Gemology)

Orange County Center of Excellence, October 2024



## 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 <b>321 annual job openings</b> throughout Los Angeles and Orange counties for <i>jewelers and precious stone and metal workers</i> , which is <b>more than the 22 awards conferred by educational institutions</b> .	
Self-Sufficiency Standard Living Wage <sup>1</sup> :	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Comments: <b>typical entry-level wages</b> for <i>jewelers and precious stone and metal workers</i> are <b>\$13.14</b> , which is <b>significantly below the OC living wage of \$27.13</b> . However, nearly half of workers in this occupation are self-employed, which impacts wage data. For more information, see <a href="#">Wages</a> .	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Comments: though the typical entry-level education for <i>jewelers and precious stone and metal workers</i> is a high school diploma or equivalent, <b>nearly 32% of workers in the field have completed some college or an associate degree as their highest level of education</b> .	

### Additional Considerations

Emerging Occupation(s):	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Comments: N/A	
OC Resilient Job(s):	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Comments: See <a href="#">Resilient Jobs and US News &amp; World Report Best Jobs</a>	
U.S. News & World Report 2024 Best Jobs List <sup>2</sup> :	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Comments: See <a href="#">Resilient Jobs and US News &amp; World Report Best Jobs</a>	

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:

- *Jewelers and Precious Stone and Metal Workers (51-9071)*

<sup>1</sup> 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.

<sup>2</sup> "100 Best Jobs of 2024," U.S. News & World Report, accessed May 7, 2024, <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 *jewelers and precious stone and metal workers* and typical education requirements for this occupation align with a community college education. However, entry-level wages are significantly 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 <sup>th</sup> Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Jewelers and Precious Stone and Metal Workers (51-9071)	LA: 246 OC: 75	LA: 10 OC: 11	OC: \$13.14	High school diploma or equivalent	32%
<b>Total</b>	<b>321</b>	<b>22</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

#### Demand:

- The number of jobs related to *jewelers and precious stone and metal workers* is projected to decrease 3% through 2028, equating to 321 annual job openings.
- Hourly entry-level wages for *jewelers and precious stone and metal workers* are \$13.14, which is significantly below the Self-Sufficiency Standard living wage.
- There were 159 online job postings for *jewelers and precious stone and metal workers* over the past 12 months. The highest number of postings were for bench jewelers, apprentice jewelers, and diamond specialists.
- The typical entry-level education for *jewelers and precious stone and metal workers* is a high school diploma.
- Nearly 32% 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 20 awards conferred by 4 community colleges in Los Angeles and Orange Counties from 2020 to 2023.
- Non-community college institutions conferred an average of 2 awards from 2019 to 2022.
- Orange County community college students that exited Other Business and Management programs in the 2020-21 academic year had a median annual wage of \$45,516 (\$21.88 per hour) after exiting the program and 53% attained the regional living wage.
- Throughout Orange County, 56% of business and management students that exited their program in 2019-20 reported that they are working in a job closely related to their field of study.

## Demand

### Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for *jewelers and precious stone and metal workers* from 2018 through 2028. Employment for *jewelers and precious stone and metal workers* decreased 8% in Orange County from 2019 to 2020 due to the COVID-19 pandemic, similar to the 7% decline across all occupations during the same period. However, employment increased 25% from 2020 to 2021.

In the two years preceding the pandemic, employment for this occupation fluctuated in Orange County, with a 17% increase in 2018 followed by a 4% decrease in 2019. After a decrease in employment in 2020 and an additional decrease through 2023, employment for *jewelers and precious stone and metal workers* in Orange County is projected to remain flat through 2028, experiencing a similar rate relative to all occupations in Los Angeles and Orange counties.

**Exhibit 2: Annual Percent Change in Jobs for Jewelers and Precious Stone and Metal Workers Occupations, 2018-2028**

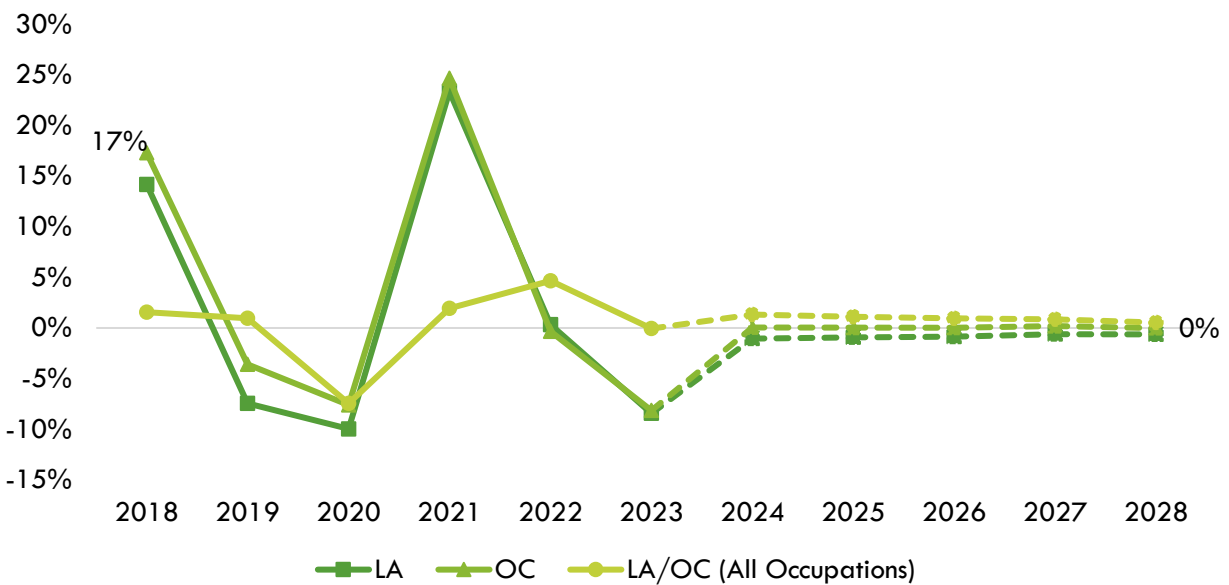


Exhibit 3 shows the five-year occupational demand projections for *jewelers and precious stone and metal workers*. In Los Angeles/Orange County, the number of jobs related to this occupation is projected to decrease 3% through 2028. There is projected to be 321 jobs available annually.

**Exhibit 3: Occupational Demand in Los Angeles and Orange Counties<sup>3</sup>**

Geography	2023 Jobs	2028 Jobs	2023-2028 Change	2023-2028 % Change	Annual Openings
Los Angeles	1,869	1,794	(75)	(4.0%)	246
Orange	534	535	1	0.3%	75
<b>Total</b>	<b>2,403</b>	<b>2,329</b>	<b>(74)</b>	<b>(3.1%)</b>	<b>321</b>

<sup>3</sup> 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:

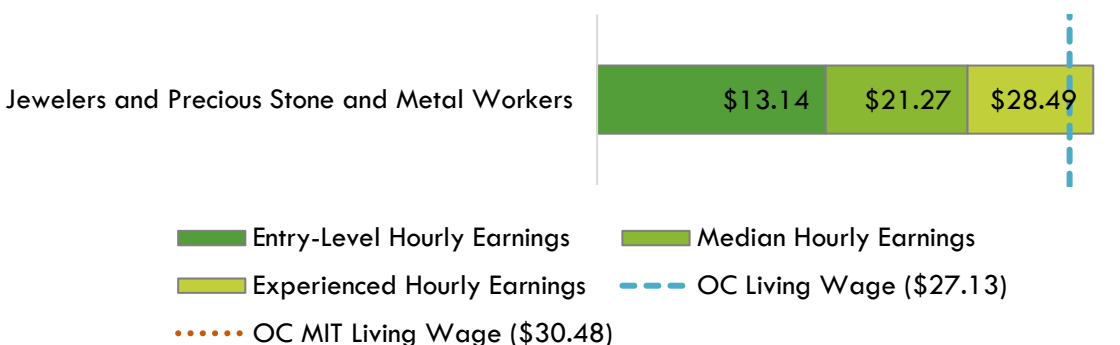
The labor market endorsement in this report considers the entry-level hourly wages for *jewelers and precious stone and metal workers* occupations in Orange County as they relate to the county's living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC region.

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 14, 2024, is provided as a reference. Currently, the MIT Living Wage in Orange County is \$30.48. 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.

It is important to note that 47% of *jewelers and precious stone and metal workers* in the Los Angeles/Orange County region are considered self-employed. Self-employed workers have different earnings dynamics than wage and salaried workers, making direct comparisons difficult. Examples include deciphering what is a return to labor versus a return to capital, as well as showing possible negative earnings if expenses or investments exceed gross receipts.<sup>4</sup> For these reasons, wage data appears to be significantly lower than both the living wage and minimum wage.

The typical entry-level hourly wage for *jewelers and precious stone and metal workers* is \$13.14 and the median wage is \$21.27, both of which are significantly below the Self-Sufficiency Standard living wage for one adult (\$27.13 in Orange County). However, experienced-level wages of \$28.49 are above the Self-Sufficiency Standard living wage. Orange County's average wages of \$24.20 are below the average statewide wage of \$25.56 for this occupation. Exhibit 4 shows the wage range for *jewelers and precious stone and metal workers* in Orange County and how it compares to the regional living wage, sorted from lowest to highest entry-level wage.

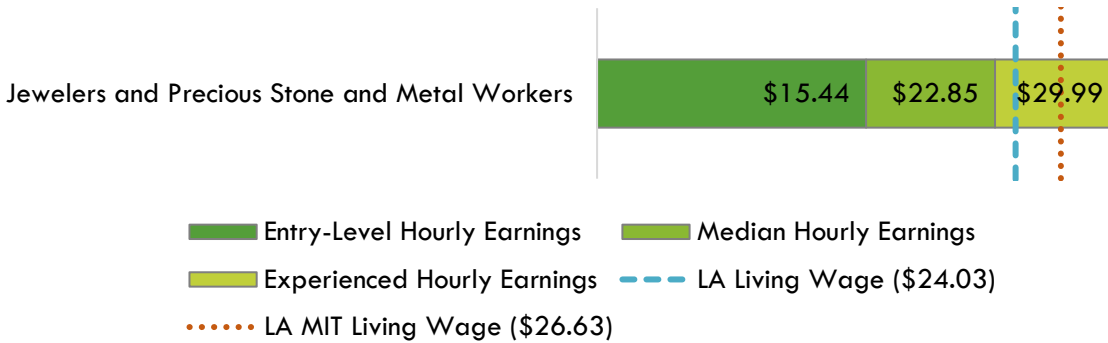
### Exhibit 4: Wages by Occupation in Orange County



The typical entry-level hourly wage for *jewelers and precious stone and metal workers* is \$15.44 and the median wage is \$22.85, both of which are below the Self-Sufficiency Standard living wage for one adult (\$24.03 in Los Angeles County). However, experienced-level wages of \$29.99 are significantly above the Self-Sufficiency Standard living wage. Los Angeles County's average wages of \$25.17 are slightly below the average statewide wage of \$25.56 for this occupation. Exhibit 5 shows the wage range for *jewelers and precious stone and metal workers* in Los Angeles County and how it compares to the regional living wage, sorted from lowest to highest entry-level wage.

<sup>4</sup> [https://www.brookings.edu/wp-content/uploads/2019/11/201911\\_Brookings-Metro\\_low-wage-workforce\\_Ross-Bateman.pdf](https://www.brookings.edu/wp-content/uploads/2019/11/201911_Brookings-Metro_low-wage-workforce_Ross-Bateman.pdf)

## Exhibit 5: Wages by Occupation in Los Angeles County



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

Exhibit 6 shows if *jewelers and precious stone and metal workers* is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2024 U.S. News & World Report (USN&WR) Best Job. This occupation did not meet the criteria for these designations.

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

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2024 USN&WR Best Job
Jewelers and Precious Stone and Metal Workers	<input type="checkbox"/>	<input 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 or phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.<sup>5</sup> 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.

This section includes two analyses of online job postings listed in Orange and Los Angeles counties over the past 12 months. The first analysis includes data for all job postings related to *jewelers and precious stone and metal workers*. The second analysis focuses on job postings for over 40 gemology-related job titles

<sup>5</sup> K. R. Chowdhary, *Fundamentals of Artificial Intelligence* (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>.

such as gemologists, jewelry designers, watchmakers, silversmiths, casters, and more. Job titles include those listed in the Jewelers of America 2023 Jewelry Industry Salary Study.<sup>6</sup>

There were 159 online job postings related to *jewelers and precious stone and metal workers* 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=159)**

Occupation	Job Postings	Percentage of Job Postings
Jewelers and Precious Stone and Metal Workers	159	100%
<b>Total Postings</b>	<b>159</b>	<b>100%</b>

There were 589 online job postings for the gemology-related job titles in the past 12 months. Exhibit 8 shows the top job titles for these postings. The plurality of job postings were for fine jewelry sales associates (39%) and nearly all top job titles are related to jewelry retail sales.

**Exhibit 8: Number of Gemology Related Job Titles by Number of Job Postings (n=589)**

Job Title	Job Postings	Percentage of Job Postings
Fine Jewelry Sales Associates	229	39%
Jewelry Sales Associates	49	8%
Retail Jewelry Sales Associates	36	6%
Fine Jewelry Managers	33	6%
Fine Jewelry Consultants	31	5%
Jewelry Merchandisers	24	4%
Jewelry Associates	22	4%
Jewelry Sales Consultants	21	4%
Jewelry Managers	17	3%
Watchmakers	14	2%

The top employers for *jewelers and precious stone and metal workers* in the region, by number of job postings, are shown in Exhibit 9.

**Exhibit 9: Top Employers for Jewelers and Precious Stone and Metal Workers by Number of Job Postings (n=159)**

Employer	Job Postings	Percentage of Job Postings
Signet Jewelers	36	23%
Agency Office	5	3%
Jennie Kwon Designs	4	3%
Viking Staffing	4	3%
Walmart	4	3%
Crystalarium	3	2%
Don Roberto Jewelers	3	2%

<sup>6</sup> "Salary Study Executive Summary: Results from the 2023 Jewelry Industry Salary Study." Jewelers of America. Accessed October 10, 2024. <https://www.jewelers.org/images/careers/SalaryStudy-2024.pdf>.

Employer	Job Postings	Percentage of Job Postings
Chrome Hearts Factory	2	1%
Coherent	2	1%
Express Employment Professionals	2	1%

The top employers for gemology-related job titles in the region, by number of job postings, are shown in Exhibit 10.

### Exhibit 10: Top Employers for Gemology-Related Job Titles by Number of Job Postings (n=589)

Employer	Job Postings	Percentage of Job Postings
Macy's	98	17%
Signet Jewelers	83	14%
JCPenney	58	10%
Daniels Jewelers	23	4%
Bloomingdale's	22	4%
Brilliant Earth	21	4%
Retail Assistance Corporation	13	2%
Beeline Group (Fashion Accessories)	11	2%
Swatch Group	9	2%
Helzberg Diamonds	8	1%

The top specialized, soft, and computer skills for *jewelers and precious stone and metal workers* listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 11.

### Exhibit 11: Top Skills for Jewelers and Precious Stone and Metal Workers by Number of Job Postings (n=159)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Casting (28)	Communication (40)	Microsoft Excel (6)
Soldering (27)	Detail Oriented (37)	Microsoft Outlook (6)
Photography (20)	Clerical Works (34)	IBM Basic Assembly Language And Successors (5)
Carving (16)	Customer Service (32)	Microsoft Word (5)
Wax (16)	Computer Literacy (24)	Adobe Illustrator (3)
Hand Tools (14)	Administrative Functions (23)	Adobe InDesign (2)
Production Process (14)	Organizational Skills (23)	Adobe Photoshop (2)
Turnaround Time (13)	Quality Control (23)	G-Codes (2)
Shipping And Receiving (10)	Time Management (17)	Microsoft Office (2)
Machinery (9)	Accountability (14)	TikTok (2)

The top specialized, soft, and computer skills for gemology-related job titles, listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 12.

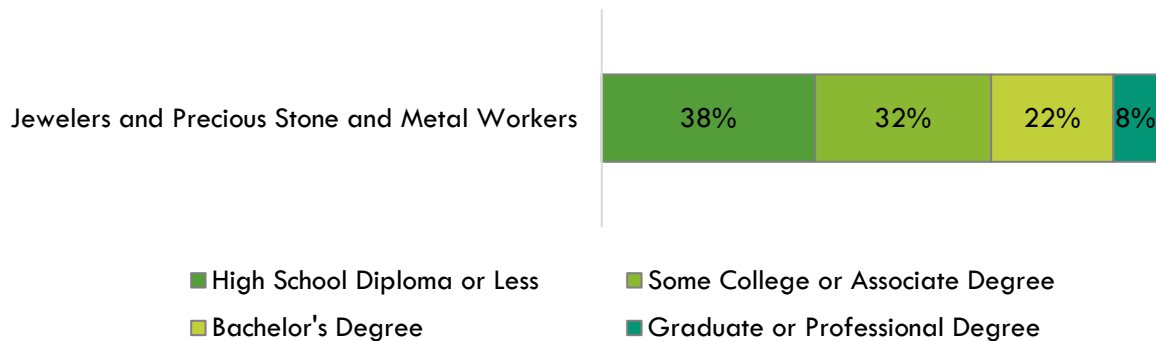
### Exhibit 12: Top Skills for Gemology-Related Job Titles by Number of Job Postings (n=589)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Merchandising (305)	Sales (475)	Microsoft Excel (19)
Product Knowledge (192)	Customer Service (276)	Microsoft Outlook (13)
Selling Techniques (185)	Communication (236)	Microsoft Office (12)
Cash Register (135)	Interpersonal Communications (122)	Adobe Illustrator (9)
Purchasing (135)	Packaging And Labeling (106)	Adobe Photoshop (9)
Asset Protection (121)	Resourcefulness (106)	Microsoft Word (9)
Point Of Sale (110)	Administrative Functions (78)	Slack (Software) (9)
Auditing (106)	Operations (75)	Beeline (8)
Sales Support (70)	Detail Oriented (73)	EnCase (Digital Intelligence Software) (8)
Employee Assistance Programs (66)	Financial Literacy (66)	Adobe InDesign (7)

### Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *jewelers and precious stone and metal workers*. However, the national-level educational attainment data indicates 32% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 13 shows the educational attainment for *jewelers and precious stone and metal workers*.

### Exhibit 13: National-level Educational Attainment for Occupations



Of the 43% of the cumulative job postings for *jewelers and precious stone and metal workers* that listed a minimum education requirement in Los Angeles/Orange County, 86% (59) requested a high school diploma or an associate degree and 13% (9) requested a bachelor's degree.



## Educational Supply

### Community College Supply:

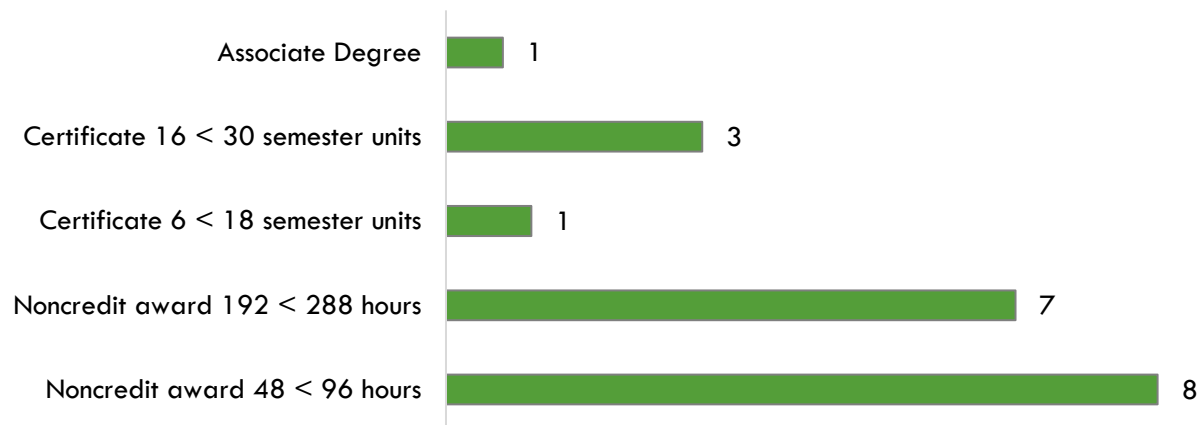
Exhibit 14 shows the three-year average number of awards conferred by community colleges in the related TOP code: Other Business and Management (0599.00). The colleges with the most completions in the region are LA City, North Orange Adult, and Santiago Canyon. Notably, only Santiago Canyon offers a program specifically focused on gemology. Over the past 12 months, there were no related program recommendation requests from regional community colleges.

**Exhibit 14: 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
0599.00	Other Business and Management	LA City	0	21	4	8
		<b>LA Subtotal</b>	<b>0</b>	<b>21</b>	<b>4</b>	<b>8</b>
		North Orange Adult	4	7	9	7
		Santa Ana	2	1	0	1
		Santiago Canyon	8	1	2	4
		<b>OC Subtotal</b>	<b>14</b>	<b>9</b>	<b>11</b>	<b>11</b>
<b>Supply Total/Average</b>			<b>14</b>	<b>30</b>	<b>15</b>	<b>20</b>

Exhibit 15 shows the annual average community college awards by type from 2020-21 to 2022-23. The plurality of the awards are for noncredit awards between 48 and less than 96 hours, followed by noncredit awards between 192 and less than 288 hours.

**Exhibit 15: Annual Average Community College Awards by Type, 2020-2023**



### Community College Student Outcomes:

Exhibit 16 shows the Strong Workforce Program (SWP) metrics for Other Business and Management programs in Rancho Santiago Community College District (RSCCD), the Orange County Region, and California. Of the 140 Orange County Other Business and Management students in the 2021-22 academic year, 80% (112) attended an RSCCD college.

Additionally, RSCCD students that exited Other Business and Management programs in the 2021-22 academic year had lower median annual earnings (\$43,230 or \$20.78 per hour) compared to all Other Business and Management students in Orange County (\$45,516 or \$21.88 per hour). A lower percentage of RSCCD Other Business and Management students attained the living wage (48%) when compared to all Other Business and Management students in Orange County (53%).

### Exhibit 16: Other Business and Management (0599.00) Strong Workforce Program Metrics, 2021-22<sup>7</sup>

SWP Metric	RSCCD	OC Region	California
SWP Students	112	140	1,065
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	19%	15%	27%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	64%	97%	82%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	Insufficient Data	Insufficient Data	58
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	Insufficient Data	Insufficient Data	40
SWP Students with a Job Closely Related to Their Field of Study (2019-20)	50%	56%	52%
Median Annual Earnings for SWP Exiting Students (2020-21)	\$43,230	\$45,516	\$47,862
Median Change in Earnings for SWP Exiting Students (2020-21)	10%	1%	10%
SWP Exiting Students Who Attained the Living Wage (2020-21)	48%	53%	65%

### Non-Community College Supply:

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering gemology training programs. Exhibit 17 displays the annual and three-year average awards granted by these institutions under the related Classification of Instructional Programs (CIP) code: Jewelry Arts (50.0713). No awards were conferred under the following related CIP codes: Watchmaking and Jewelmaking (47.0408) and Metal Arts (50.0714). The available data covers 2019 to 2022. During this period, non-community college institutions in the region conferred an average of 2 awards annually in related programs.

### Exhibit 17: Regional Non-Community College Awards, 2019-2022

CIP Code	Program	College	2019-2020 Awards	2020-2021 Awards	2021-2022 Awards	3-Year Award Average
50.0713	Jewelry Arts	FIDM-Fashion Institute of Design & Merchandising	5	1	0	2
<b>Supply Total/Average</b>			<b>5</b>	<b>1</b>	<b>0</b>	<b>2</b>

<sup>7</sup> All SWP metrics are for 2021-22 unless otherwise noted.

## Regional Demographics

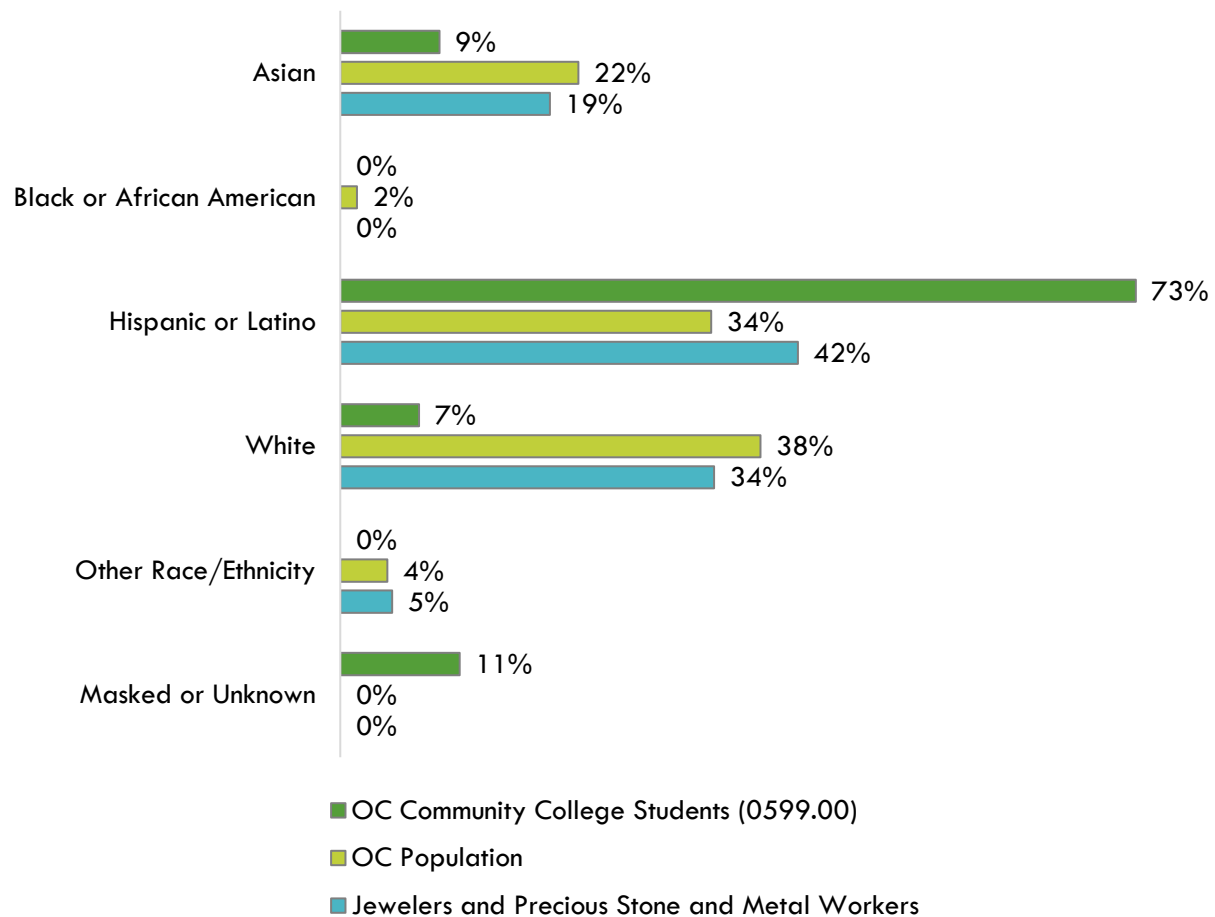
This section examines demographic data for Orange County community college students in Other Business and Management programs compared to the OC population, along with occupational data, to identify potential diversity and equity issues addressable by community college programs.

### Ethnicity:

Exhibit 18 compares the ethnicity of Orange County community college students enrolled in Other Business and Management programs, the overall Orange County population, and occupation-specific data for jewelers and precious stone and metal workers.

A large majority of community college Other Business and Management students are Hispanic or Latino (73%), which is significantly higher than the population (34%) and workers in the field (42%). Conversely, Asian (9%) and white (7%) representation amongst community college Other Business and Management students is significantly lower than their respective shares of the population (22% Asian and 38% white) and workers in the field (19% Asian and 34% white).

Exhibit 18: Program and County Demographics by Ethnicity

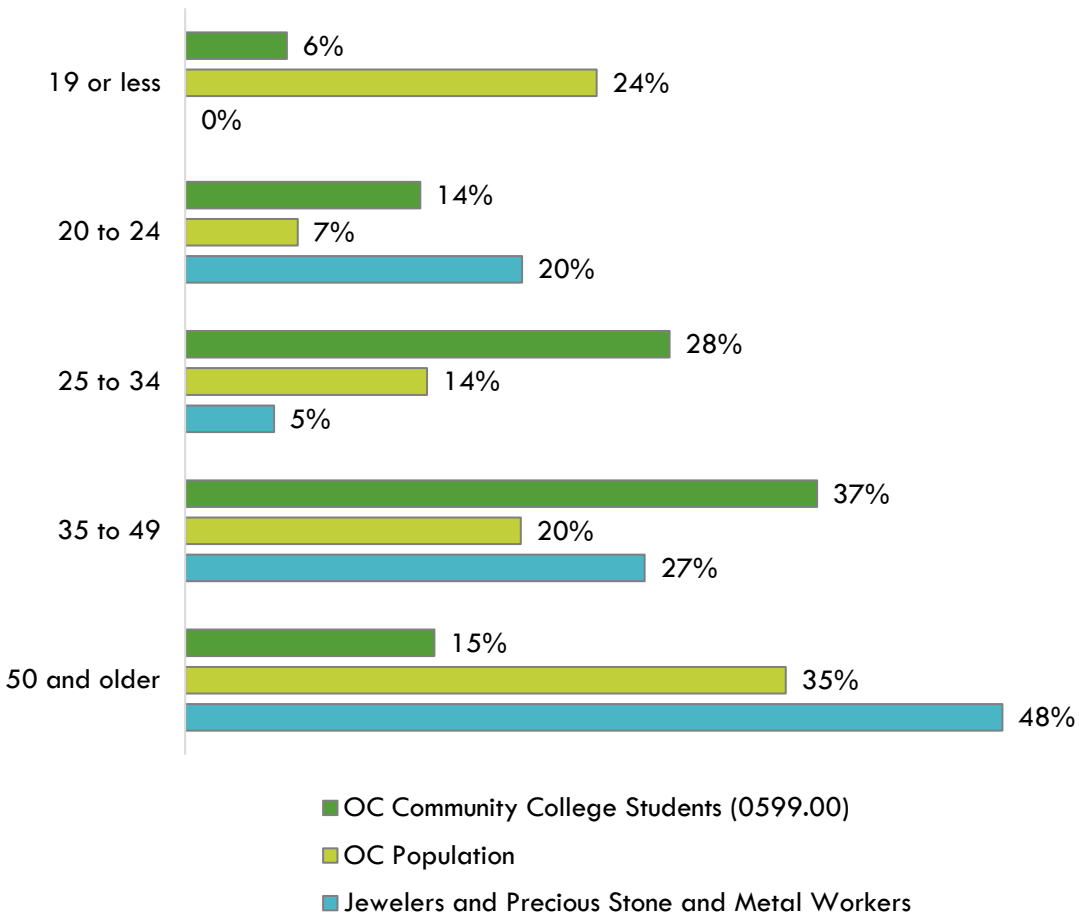


## Age:

Exhibit 19 compares the age of Orange County community college students enrolled in Other Business and Management programs, the overall Orange County population, and occupation-specific data for *jewelers and precious stone and metal workers*.

Individuals 50 and older account for almost half of all workers in the field (48%), which is higher than the population (35%) and community college Other Business and Management students (15%). Conversely, individuals 35 to 49 account for the plurality of community college Other Business and Management students, which is higher than the population (20%) and workers in the field (27%).

Exhibit 19: Program and County Demographics by Age



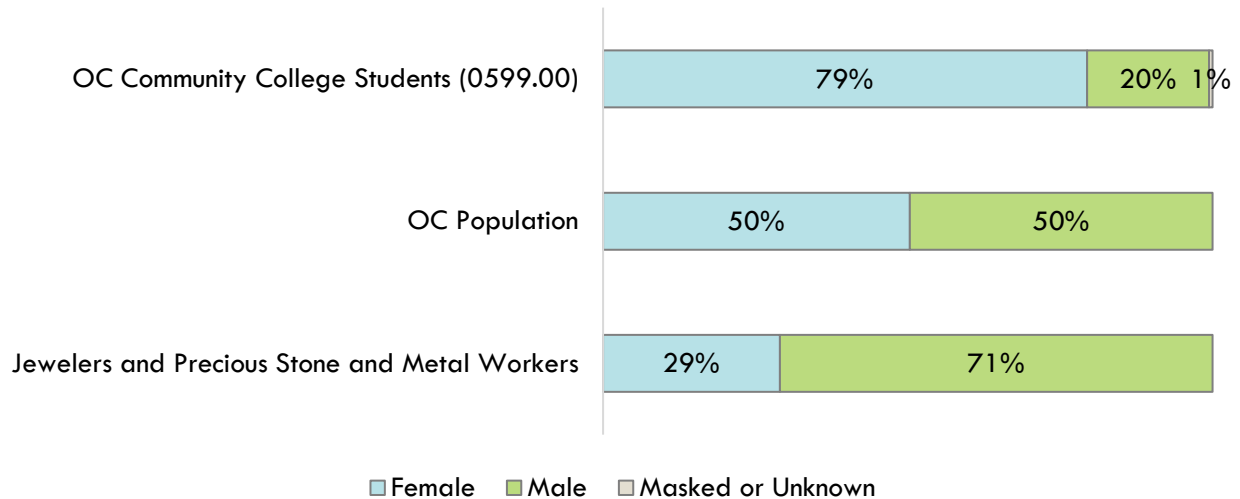
## Sex:

Though the population is split evenly between women and men, women account for 79% of community college Other Business and Management students but only 29% of workers in the field.

Exhibit 20 compares the sex of Orange County community college students enrolled in Other Business and Management programs, the overall Orange County population, and occupation-specific data for *jewelers and precious stone and metal workers*.

Though the population is split evenly between women and men, women account for 79% of community college Other Business and Management students but only 29% of workers in the field.

### Exhibit 20: 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](http://datamart.cccco.edu)) and CIP code data comes from the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](http://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 <a href="https://lightcast.io/">https://lightcast.io/</a></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: <a href="http://www.selfsufficiencystandard.org/California">http://www.selfsufficiencystandard.org/California</a></p> <p>The MIT Living Wage, updated on February 14, 2024, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is \$30.48. For more information, see: <a href="https://livingwage.mit.edu/counties/06059">https://livingwage.mit.edu/counties/06059</a></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 <a href="https://www.bls.gov/emp/documentation/education/tech.htm">https://www.bls.gov/emp/documentation/education/tech.htm</a></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 <a href="https://www.onetonline.org/help/online/">https://www.onetonline.org/help/online/</a></p>
Educational Supply	<p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: <a href="https://datamart.cccco.edu">https://datamart.cccco.edu</a></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 <a href="https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions">https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</a></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: <a href="https://www.calpassplus.org/LaunchBoard/Home.aspx">https://www.calpassplus.org/LaunchBoard/Home.aspx</a></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: <a href="https://www.census.gov/programs-surveys/acs">https://www.census.gov/programs-surveys/acs</a></p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: <a href="https://usa.ipums.org/usa/about.shtml">https://usa.ipums.org/usa/about.shtml</a></p>

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October 2024

