

# Labor Market Analysis for Program Review: 1 602.00/Library Technician (Aide) (Library Technology)

Orange County Center of Excellence, November 2022



Program reviews are conducted by individual colleges to periodically review curriculum of their existing programs, and in the case of career technical education programs, ensure continued alignment with regional labor market needs. Because a program review evaluates an existing program, rather than establishing a new program, additional supply will not be added; therefore, the endorsement criteria included in this report is determined slightly differently than it is for a new program that requires regional recommendation.

## 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"/>
-------------------------	---	---	---

### Program LMI Endorsement Criteria

	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Supply Gap:	<i>Comments:</i> there is projected to be <b>915 annual job openings</b> throughout Los Angeles and Orange counties for these library technology occupations, which is <b>more than the 51 awards conferred by educational institutions.</b>	
Living Wage: (Entry-Level, 25 <sup>th</sup> )	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>Comments:</i> <b>all annual job openings</b> for these library technology occupations <b>have entry-level hourly wages significantly below the OC living wage of \$20.63.</b>	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<i>Comments:</i> The typical entry-level education for these library technology occupations ranges from a high school diploma or equivalent to a postsecondary nondegree award. Furthermore, <b>approximately one-third of workers in the field have completed some college or an associate degree as their highest level of education.</b>	

### Emerging Occupation(s)

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<i>Comments:</i> N/A	

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report for an Orange County community college's program review to analyze regional labor market information related to two middle-skill occupations:

- Library Technicians (25-4031)
- Library Assistants (43-4121)

Based on the available data there appears to be a supply gap for these library technology occupations and typical education requirements for these occupations align with a community college education. However, entry-level wages for these occupations are significantly below the 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
Library Technicians (25-4031)	417	51	OC: \$17.17	Postsecondary nondegree award	27%
Library Assistants, Clerical (43-4121)	497	Accounted for Above	OC: \$17.17	High school diploma or equivalent	36%
<b>Total</b>	<b>915</b>	<b>51</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

#### Demand:

- The number of jobs related to these library technology occupations are projected to increase 1% through 2026, equating to 915 annual job openings.
- Hourly entry-level wages for these library technology occupations are \$17.17 in Orange County, which is significantly below the living wage of \$20.63.
- There were 421 online job postings for these library technology occupations over the past 12 months. The highest number of postings were for library assistants, library clerks, and library aides.
- The typical entry-level education for these library technology occupations ranges from a high school diploma or equivalent to a postsecondary nondegree award.
- Between 27% and 36% 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 51 awards conferred by three community colleges in Los Angeles and Orange Counties from 2018 to 2021.
- Non-community college institutions did not confer any related awards from 2017 to 2020.
- Due to the small number of students enrolled in library technician programs throughout Orange County, there is insufficient data to report student outcomes data for median wages after exit, the percentage of students that attained the living wage, and the percentage of exiting students working in a job closely related to their field of study.

## Demand

### Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for these library technology occupations from 2016 through 2026. Though there was a 7% decline across all occupations from 2019 to 2020 due to the COVID-19 pandemic, employment in these program declined only 4% in Orange County and increased 1% in Los Angeles County. Employment for these library technology occupations in Orange County is projected to slightly decline each year through 2026.

## Exhibit 2: Annual Percent Change in Jobs for Library Technology Occupations, 2016-2026

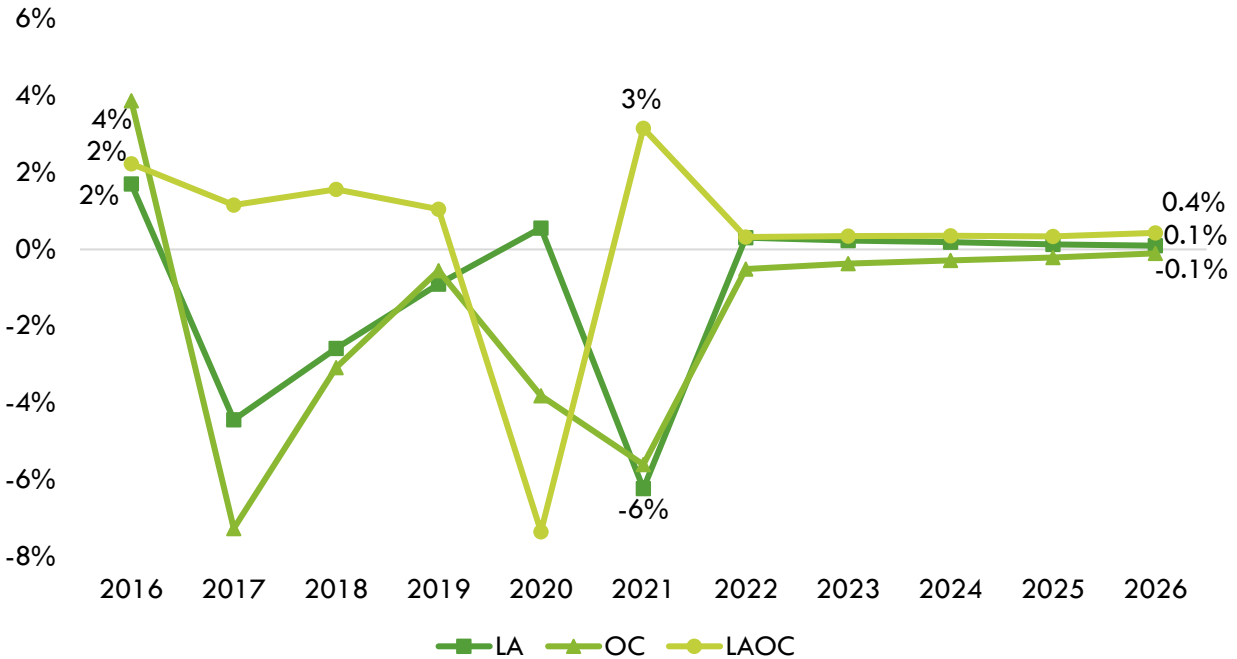


Exhibit 3 shows the five-year occupational demand projections for these library technology occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 1% through 2026. There is projected to be 915 jobs available annually.

### Exhibit 3: Occupational Demand in Los Angeles and Orange Counties<sup>1</sup>

Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	4,965	5,012	47	1%	752
Orange	1,104	1,088	(16)	(1%)	163
<b>Total</b>	<b>6,068</b>	<b>6,100</b>	<b>31</b>	<b>1%</b>	<b>915</b>

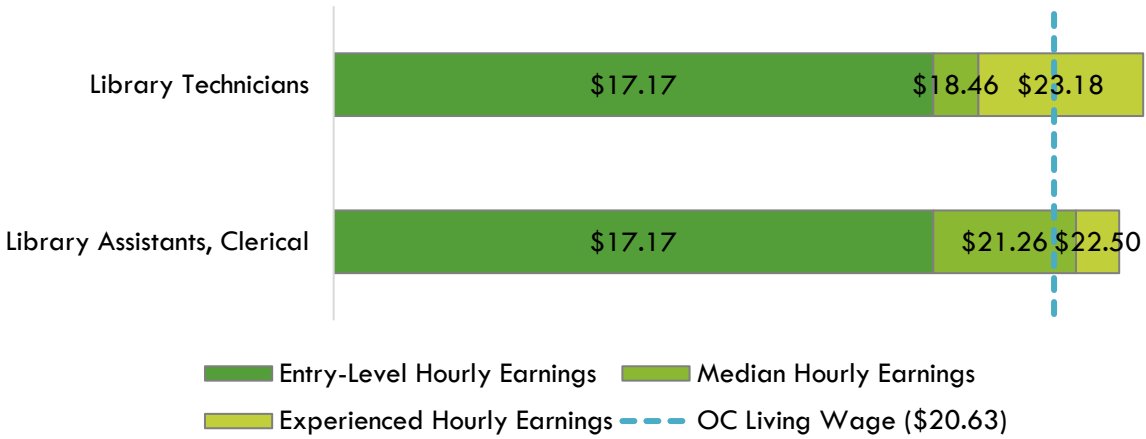
### Wages:

The labor market endorsement in this report considers the entry-level hourly wages for these library technology occupations 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.

All annual openings for these library technology occupations have entry-level wages below the living wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages for both occupations are \$17.17. Experience workers in these occupations can expect to earn between \$22.50 and \$23.18. Orange County's average wages are below the average statewide wage of \$22.24 for these occupations. Exhibit 4 shows the wage range for each of these library technology occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

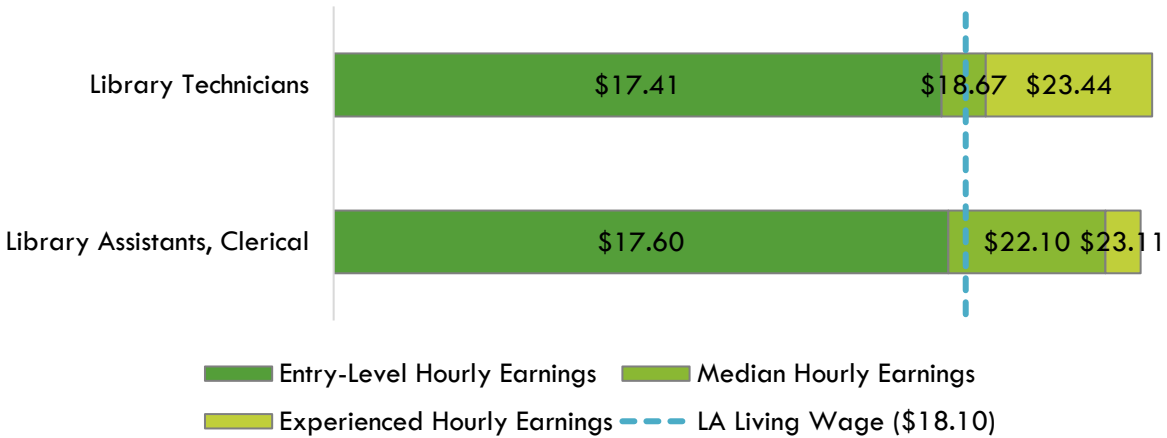
<sup>1</sup> Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

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



All annual openings for these library technology occupations have entry-level wages below the living wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$17.41 and \$17.60. Los Angeles County’s average wages are below the average statewide wage of \$22.24 for these occupations. Exhibit 5 shows the wage range for each of these library technology occupations in Los Angeles County how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

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



### Job Postings:

There were 421 online job postings related to these library technology occupations listed in the past 12 months. Exhibit 6 shows the number of job postings by occupation. Nearly 75% of job postings were for *library assistants, clerical*.

### Exhibit 6: Number of Job Postings by Occupation (n=421)

Occupation	Job Postings	Percentage of Job Postings
Library Assistants, Clerical	308	73%
Library Technicians	113	27%
<b>Total Postings</b>	<b>421</b>	<b>100%</b>

The top employers in the region, by number of job postings, are shown in Exhibit 7.

### Exhibit 7: Top Employers by Number of Job Postings (n=421)

Employer	Job Postings	Percentage of Job Postings
City Of Huntington Beach	16	4%
Chapman University	16	4%
J. Paul Getty Trust	9	2%
City Of Anaheim	9	2%
Mt. San Antonio College	8	2%
Rancho Santiago Community College	8	2%
University of California	8	2%
North Orange County Community College District	7	2%
City Of Long Beach	7	2%
El Camino College	6	1%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8.

### Exhibit 8: Top Skills by Number of Job Postings (n=421)

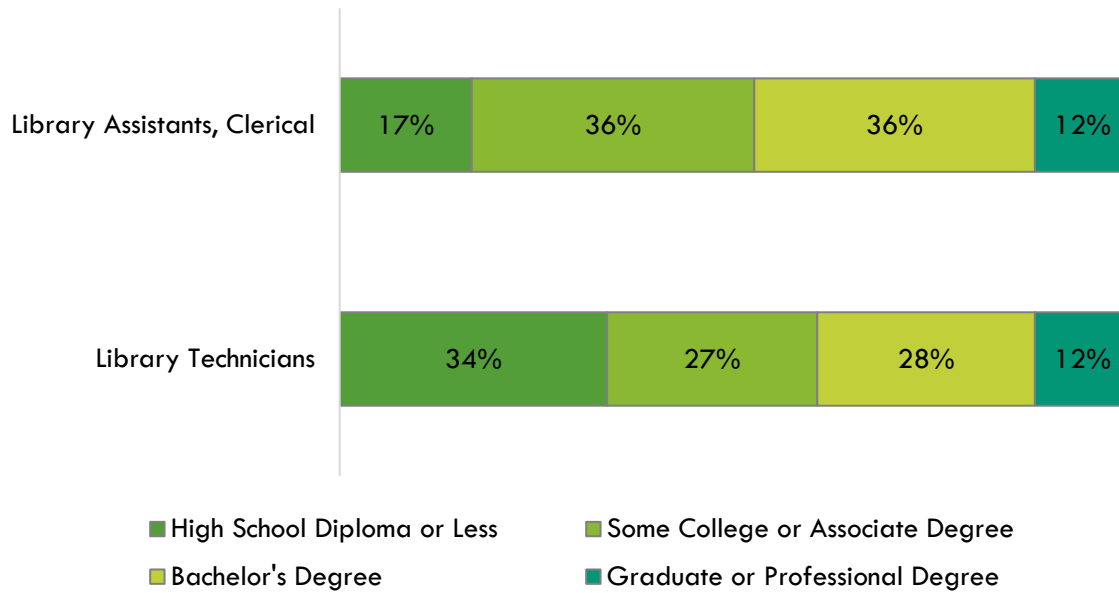
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Library Services (134)	Customer Service (204)	Microsoft Office (81)
Office Equipment (116)	Communications (197)	Microsoft Excel (42)
Punctuation And Capitalization (95)	Clerical Works (196)	Microsoft Outlook (22)
Cataloguing (85)	Writing (136)	Microsoft Word (20)
Integrated Library Systems (74)	Operations (123)	Productivity Software (14)
Library Science (72)	Grammar (113)	Microsoft PowerPoint (12)
Vocabulary (71)	Collections (109)	Zoom (11)
Interlibrary Loan (63)	Arithmetic (94)	Web Browsers (11)
Library Programming (55)	Record Keeping (91)	Software Systems (10)
Public Service (54)	Research (89)	Database Systems (9)

## Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *library assistants, clerical* and a postsecondary nondegree award *library technicians*. The national-level educational attainment data indicates between 27% and 36% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 9 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Of the 61% of the cumulative job postings for these library technology occupations that listed a minimum education requirement in Los Angeles/Orange County, 72% (185) requested a high school diploma or an associate degree and 28% (73) requested a bachelor's degree.

## Exhibit 9: National-level Educational Attainment for Occupations



## Educational Supply

### Community College Supply:

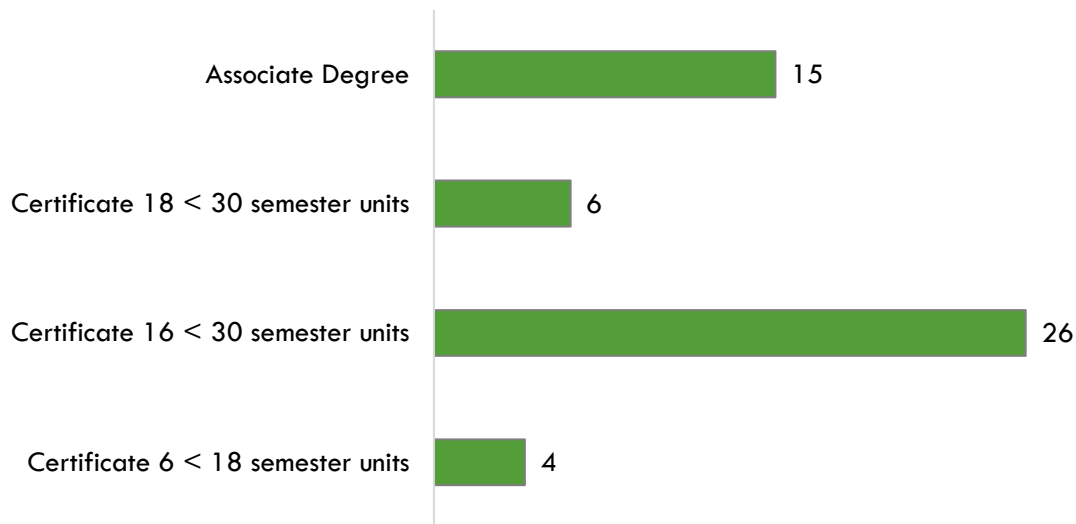
Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP code: Library Technician (Aide) (1602.00) The colleges with the most completions in the region are: Pasadena and Santa Ana. Over the past 12 months, there was one other related program recommendation request from regional community colleges.

### Exhibit 10: Regional Community College Awards (Certificates and Degrees), 2018-2021

TOP Code	Program	College	2018-2019 Awards	2019-2020 Awards	2020-2021 Awards	3-Year Award Average
1602.00	Library Technician (Aide)	Long Beach	7	11	8	9
		Pasadena	20	7	50	25
		<b>LA Subtotal</b>	<b>27</b>	<b>18</b>	<b>58</b>	<b>34</b>
		Santa Ana	24	17	12	17
		<b>OC Subtotal</b>	<b>24</b>	<b>17</b>	<b>12</b>	<b>17</b>
<b>Supply Subtotal/Average</b>			<b>51</b>	<b>35</b>	<b>70</b>	<b>51</b>
<b>Supply Total/Average</b>			<b>694</b>	<b>710</b>	<b>790</b>	<b>732</b>

Exhibit 11 shows the annual average community college awards by type from 2018-19 through 2020-21. The majority of the awards are for certificates between 16 and less than 30 semester units, followed by associate degrees.

### Exhibit 11: Annual Average Community College Awards by Type, 2018-2021



### Community College Student Outcomes:

Exhibit 12 shows the Strong Workforce Program (SWP) metrics for library technician programs in Rancho Santiago Community College District (RSCCD), the Orange County Region, and California. Notably, Santa Ana College is the only college in Orange County with a library technician program. Therefore, the metrics for RSCCD and the Orange County regional are identical.

Additionally, there were 59 students enrolled in library technician programs at RSCCD. Due to the small number of students, outcomes data are not available for several SWP metrics.

### Exhibit 12: Library Technician (Aide) (1602.00) Strong Workforce Program Metrics, 2019-20<sup>2</sup>

SWP Metric	RSCCD	OC Region	California
SWP Students	59	Same as RSCCD	1,264
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	36%	Same as RSCCD	30%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Same as RSCCD	82%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	14	Same as RSCCD	127
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2018-19)	Insufficient Data	Same as RSCCD	52
SWP Students with a Job Closely Related to Their Field of Study (2017-18)	Insufficient Data	Same as RSCCD	77%

<sup>2</sup> All SWP metrics are for 2019-20 unless otherwise noted.

SWP Metric	RSCCD	OC Region	California
Median Annual Earnings for SWP Exiting Students (2018-19)	Insufficient Data	Same as RSCCD	\$34,068 (\$16.38)
Median Change in Earnings for SWP Exiting Students (2018-19)	Insufficient Data	Same as RSCCD	21%
SWP Exiting Students Who Attained the Living Wage (2018-19)	Insufficient Data	Same as RSCCD	46%

### 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 these library technology occupations. Due to different data collection periods, the most recent three-year period of available data is from 2017 to 2020. Between 2017 and 2020, non-community college institutions did not confer any related awards.



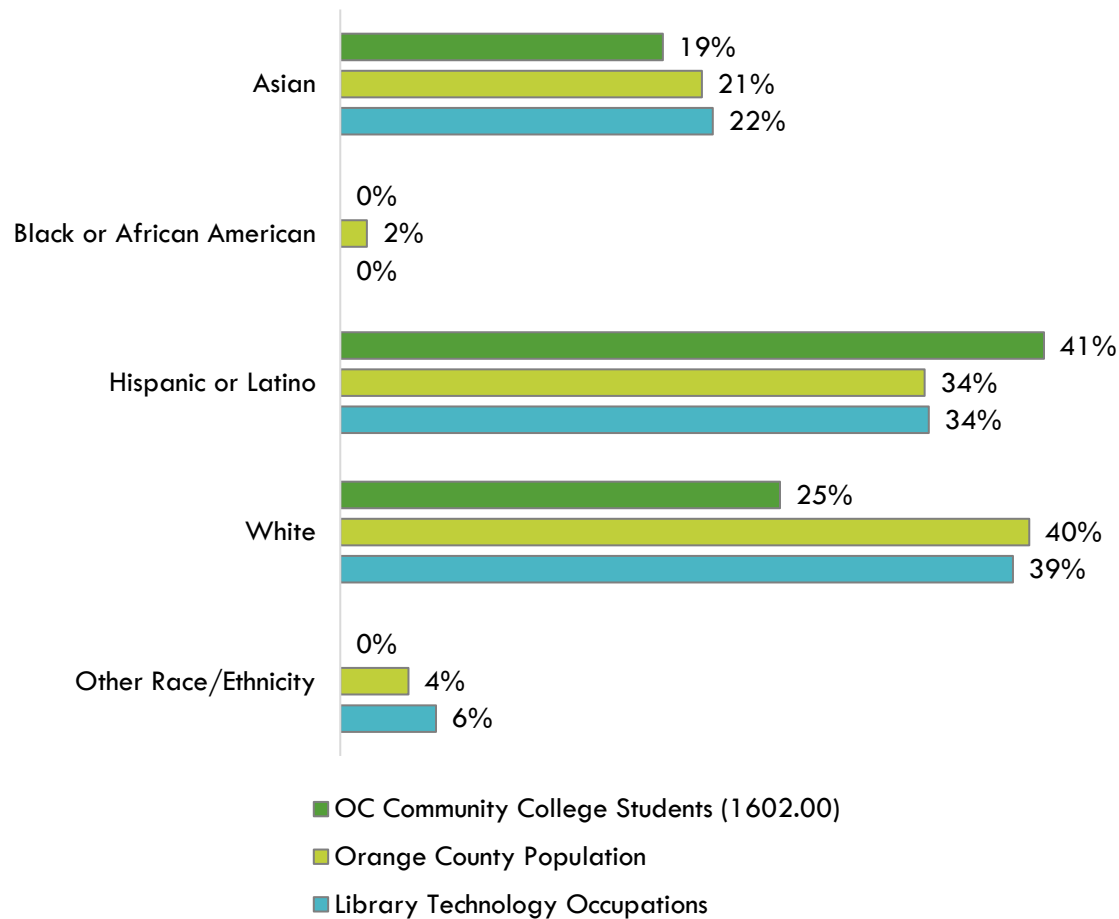
## Regional Demographics

This section analyzes demographic data for Orange County community college students enrolled in library technician programs compared to the OC population, as well occupational data, for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

### Ethnicity:

Exhibit 13 shows the ethnicity of Orange County community college students enrolled in library technician programs compared to the overall Orange County population, as well as the two library technology occupations included in this report. Notably, 39% of workers employed in these library technology occupations are White, which is much higher than community college library technician students (25%). The percentage of Hispanic or Latino community college students (41%) is higher than workers in these library technology occupations and the Orange County population (34%).

Exhibit 13: Program and County Demographics by Ethnicity

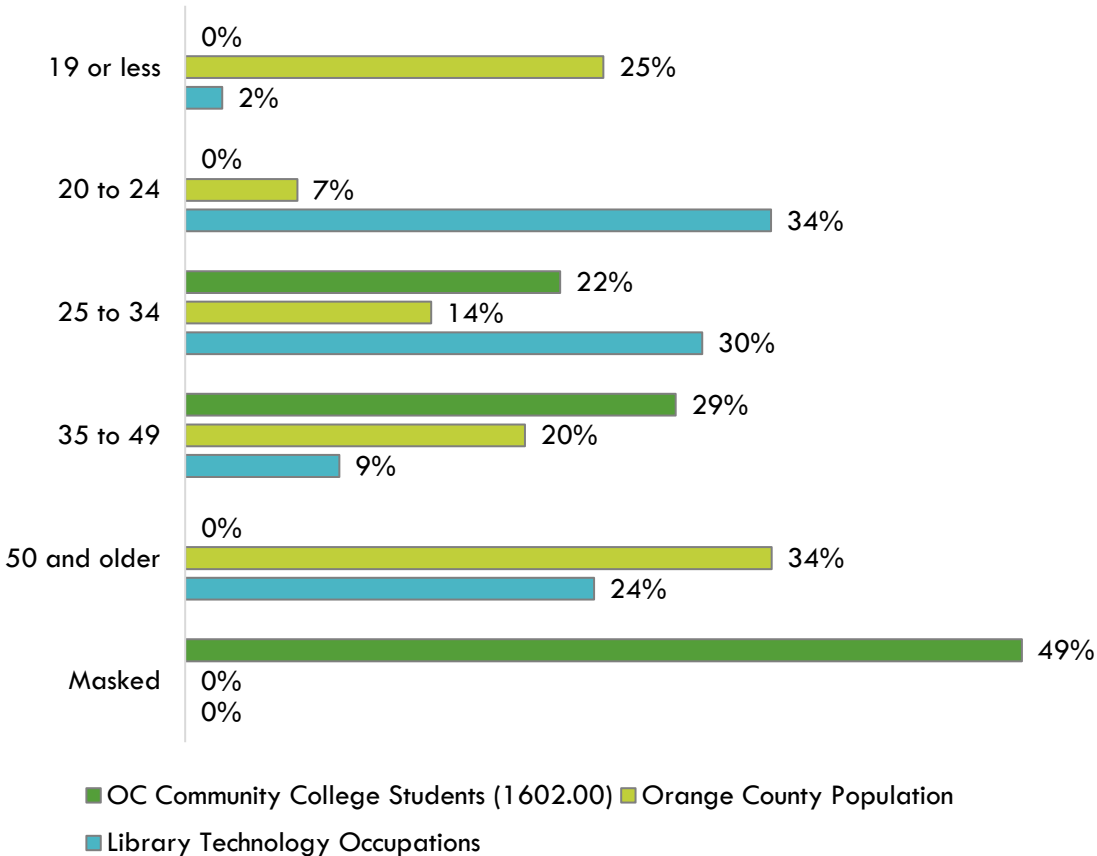


## Age:

Exhibit 14 shows the age of Orange County community college students enrolled in library technician programs compared to the overall Orange County population, as well as the two library technology occupations included in this report. The plurality (34%) of workers in these library technology occupations are age 20 to 24, which is significantly higher than the population (7%) and community college library technology students (0%).

It is important to note that, due to the small number of students, the age for 49% of community college library technician students is masked for compliance with the Family Educational Rights Privacy Act (FERPA). The masked values represent a larger group that includes small groups of less than 10 students.

Exhibit 14: Program and County Demographics by Age

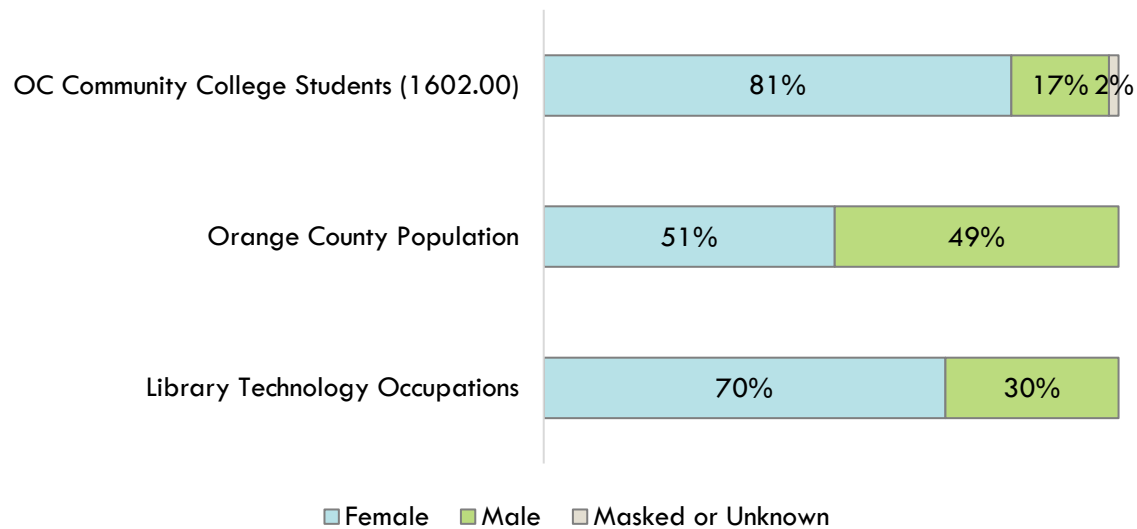


## Sex:

Exhibit 15 shows the sex of Orange County community college students enrolled in library technician programs compared to the overall Orange County population as well as these library technology occupations.

Though the Orange County population is split nearly evenly between women and men, there is a significantly higher percentage of women enrolled in library technician programs (81%) and working in these library technology occupations (70%).

**Exhibit 15: Program and County Demographics by Sex**



## Appendix A: Methodology A

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 () and CIP code data comes from the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](https://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>The living wage is derived from the Insight Center’s California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, child care, health care, transportation, and taxes. For more information, see: <a href="https://insightccd.org/family-needs-calculator/">https://insightccd.org/family-needs-calculator/</a></p> <p>The living wage for one adult in Orange County is \$20.63 per hour (\$42,910.40 annually). This figure is used by the CCCCCO to calculate the percentage of students that attained the regional living wage.</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>

For more information, please contact the Orange County Center of Excellence:

Jesse Crete, Ed. D., Director  
 crete\_jesse@rscdd.edu

Jacob Poore, Research Analyst  
 poore\_jacob@rscdd.edu

November 2022

