

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:	<i>Comments:</i> there is projected to be 1,688 annual job openings throughout Los Angeles and Orange counties for these commercial music occupations, which is more than the 875 awards conferred by educational institutions . Notably, 92% of these annual openings and 94% of these awards are in Los Angeles County.	
Living Wage: (Entry-Level, 25 th)	<i>Comments:</i> The majority (77%) of annual openings for these commercial music occupations have entry-level hourly wages below the OC living wage of \$20.63 . However, entry-level wages for the majority of annual openings are only 16 cents below the living wage.	
Education:	<i>Comments:</i> The typical entry-level education for these commercial music occupations is a postsecondary nondegree award. Additionally, over one-third of workers in the field have completed some college or an associate degree as their highest level of education .	

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 to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to two middle-skill occupations:

- Audio and Video Technicians (27-4011)
- Sound Engineering Technicians (27-4014)

Based on the available data there appears to be a supply gap for these commercial music occupations and typical education requirements for these occupations align with a community college education. Though the majority of annual openings have entry-level wages below the living wage, these entry-level wages are only 16 cents lower than 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 th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Audio and Video Technicians (27-4011)	LA: 961 OC: 92 TTL: 1,053	LA: 221 OC: 56 TTL: 397	OC: \$20.47	Postsecondary nondegree award	38%
Sound Engineering Technicians (27-4014)	LA: 607 OC: 28 TTL: 635	LA: 422 OC: 0 TTL: 422	OC: \$25.92	Postsecondary nondegree award	38%
LA/OC Total	1,688	875	N/A	N/A	N/A

Demand:

- The number of jobs related to these commercial music occupations are projected to increase 20% through 2026, equating to 1,688 annual job openings. Of those, 92% (1,568) are projected to be in Los Angeles County.
- Hourly entry-level wages for these commercial music occupations range from \$20.47 to \$25.92 in Orange County; 77% of annual job openings have entry-level wages below the living wage. However, these entry-level wages are only 16 cents lower than the living wage.
- There were 1,296 online job postings for these commercial music occupations over the past 12 months. The highest number of postings were for audiovisual technicians, audio engineers, and broadcast engineers.
- The typical entry-level education for these commercial music occupations is a postsecondary nondegree award.
- Approximately 38% of workers in the field have completed some college or an associate degree as their highest level of education.

Supply:

- There was an average of 277 awards conferred by 16 community colleges in Los Angeles and Orange Counties from 2018 to 2021. Of those, 80% (221) were conferred in Los Angeles County.
- Non-community college institutions conferred an average of 598 awards from 2017 to 2020. All non-community college awards were conferred in Los Angeles County.
- Orange County community college students that exited commercial music programs in the 2019-20 academic year had a median annual wage of \$24,188 after exiting the program and 16% attained the regional living wage.
- Throughout Orange County, 67% of students that exited their program in 2018-19 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 these commercial music occupations from 2016 through 2026. There was a 6% decline across all occupations from 2019 to 2020 due to the COVID-19 pandemic and employment in these commercial music occupations declined at a significantly higher rate (21%) in Orange County. These commercial music occupations are projected to grow at a similar rate for all occupations through 2026.

Exhibit 2: Annual Percent Change in Jobs for Commercial Music Occupations, 2016-2026

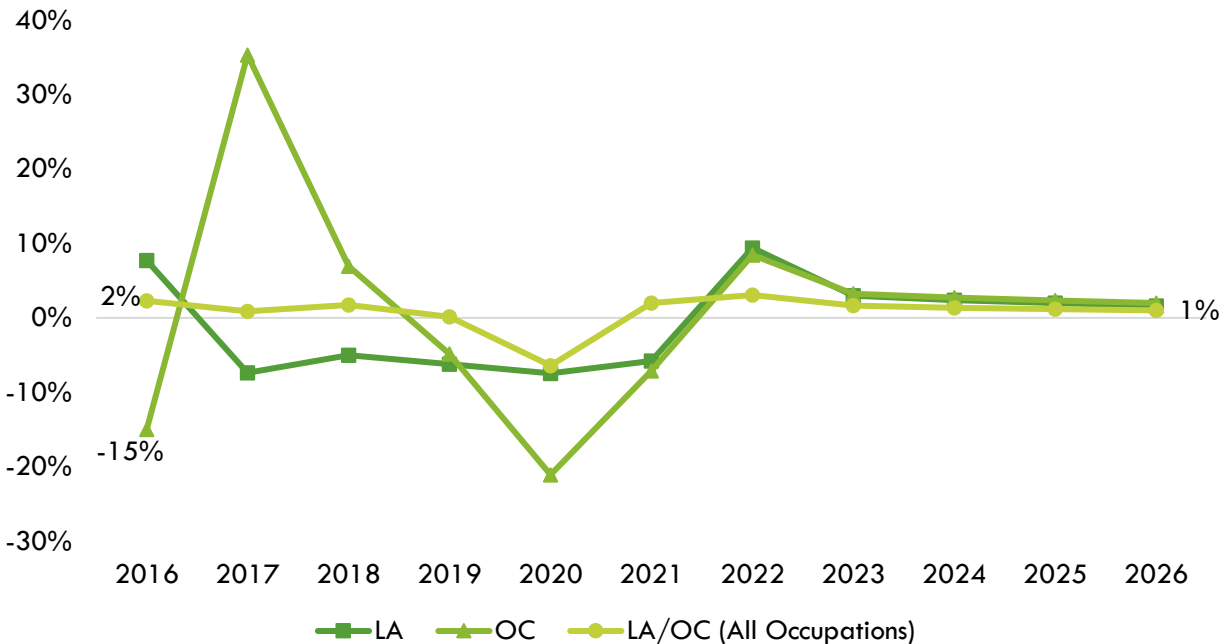


Exhibit 3 shows the five-year occupational demand projections for these commercial music occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 20% through 2026. There is projected to be 1,688 jobs available annually. Of those, 92% (1,568) are projected to be in Los Angeles County.

Exhibit 3: Occupational Demand in Los Angeles and Orange Counties¹

Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	10,786	12,894	2,107	20%	1,568
Orange	827	993	166	20%	120
Total	11,614	13,887	2,273	20%	1,688

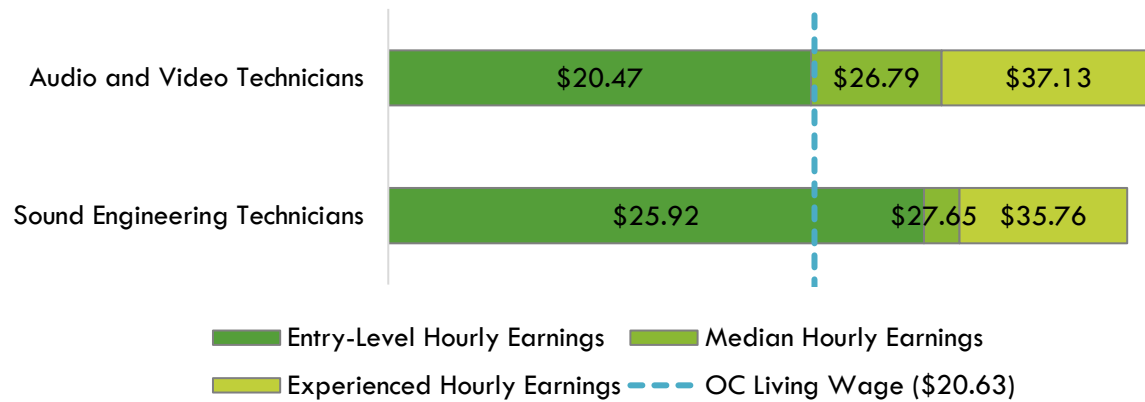
¹ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Wages:

The labor market endorsement in this report considers the entry-level hourly wages for these commercial music 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.

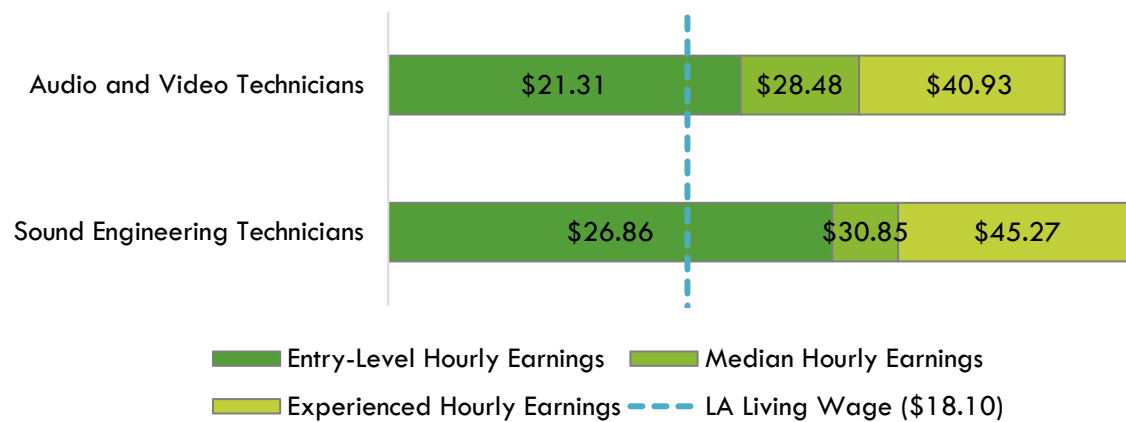
The majority of annual openings for these commercial music occupations have entry-level wages slightly below the living wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages range between \$20.47, which is only 16 cents below the living wage, and \$25.92. Orange County's average wages are below the average statewide wage of \$35.37 for these occupations. Exhibit 4 shows the wage range for each of these commercial music occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 4: Wages by Occupation in Orange County



All annual openings for these commercial music occupations have entry-level wages above the living wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$21.31 and \$26.86. Los Angeles County's average wages are above the average statewide wage of \$35.37 for these occupations. Exhibit 5 shows the wage range for each of these commercial music 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:

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.² 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 1,296 online job postings related to these commercial music occupations listed in the past 12 months. Exhibit 6 shows the number of job postings by occupation. Over 50% of job postings were for audio and video technicians.

Exhibit 6: Number of Job Postings by Occupation (n=1,296)

Occupation	Job Postings	Percentage of Job Postings
Audio and Video Technicians	819	63%
Sound Engineering Technicians	477	37%
Total Postings	1,296	100%

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=1,296)

Employer	Job Postings	Percentage of Job Postings
Best Buy	63	5%
B. Braun	35	3%
Disney	26	2%
Live Nation	24	2%
Five Star Audio Visual	20	2%
Encore	18	1%
Mt. San Antonio College	18	1%
Disneyland Resort	15	1%
California State University	14	1%
Production Resource Group	13	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.

² K. R. Chowdhary, Fundamentals of Artificial Intelligence (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>.

Exhibit 8: Top Skills by Number of Job Postings (n=1,296)

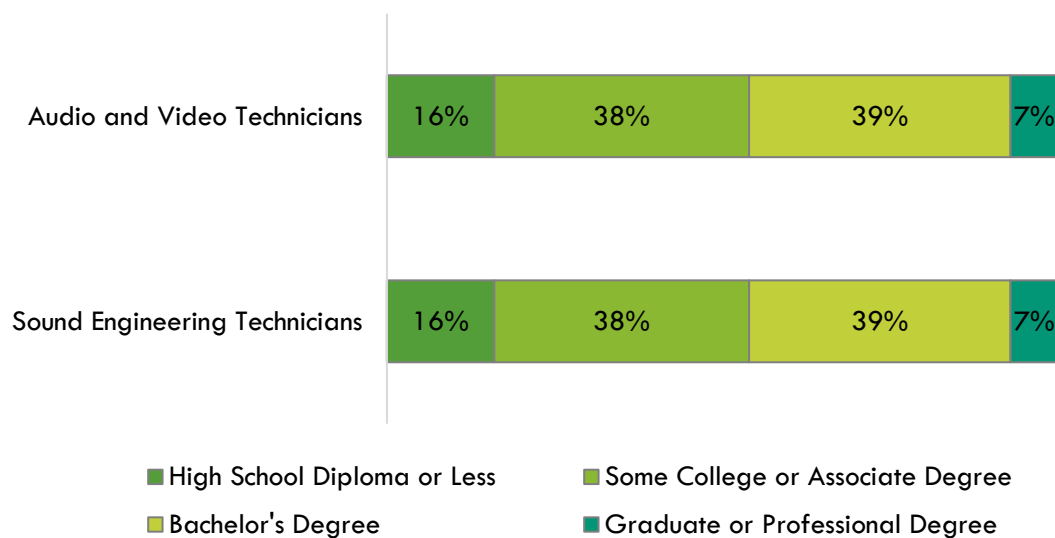
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Workflow Management (141)	Communications (455)	Microsoft Office (81)
Audio Engineering (109)	Troubleshooting (Problem Solving) (384)	Microsoft Excel (80)
Post-Production (108)	Customer Service (329)	Zoom (Video Conferencing Tool) (71)
Inventory Management (95)	Operations (295)	Pro Tools (67)
Crestron (A/V Systems) (90)	Management (251)	Microsoft PowerPoint (66)
Video Production (85)	Problem Solving (217)	Microsoft Outlook (51)
Stage Lighting (77)	Lifting Ability (200)	Adobe Photoshop (34)
Audio Mixing (76)	Detail Oriented (179)	Microsoft Word (33)
Control Systems (75)	Writing (167)	Adobe Premiere Pro (32)
Rigging (66)	Interpersonal Communications (141)	Operating Systems (32)

Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a postsecondary nondegree award as the typical entry-level education for these commercial music occupations. The national-level educational attainment data indicates approximately 38% 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 43% of the cumulative job postings for these commercial music occupations that listed a minimum education requirement in Los Angeles/Orange County, 66% (370) requested a high school diploma or an associate degree and 34% (187) requested a bachelor's or master's degree.

Exhibit 9: National-level Educational Attainment for Occupations



Educational Supply

Community College Supply:

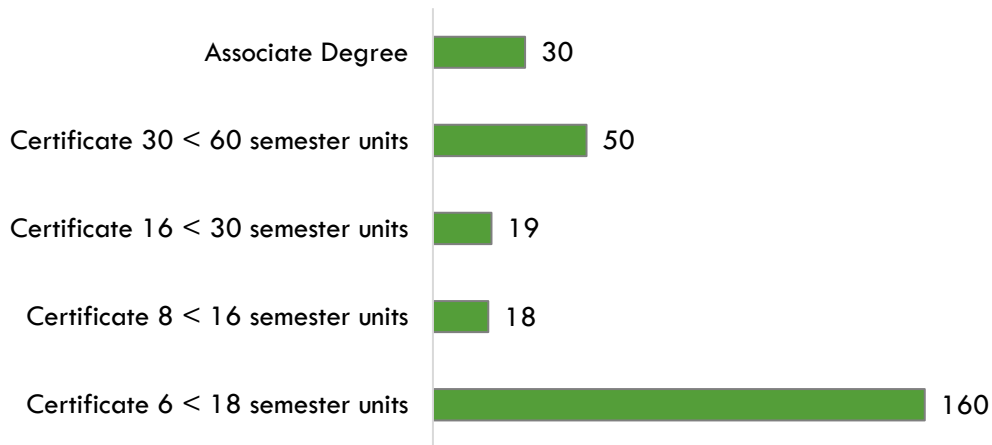
Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP code: Commercial Music (1005.00). The colleges with the most completions in the region are: LA City, Citrus, and Saddleback. Over the past 12 months, there were two other related program recommendation requests 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		
1005.00	Commercial Music	Cerritos	3	5	8	5		
		Citrus	58	51	51	53		
		Compton	0	0	1	0		
		East LA	0	0	2	0		
		Glendale	0	0	2	1		
		LA City	313	129	12	152		
		LA Harbor	6	4	0	3		
		LA Valley	7	10	6	7		
		Long Beach	0	0	1	0		
		Pasadena	0	0	2	0		
		LA Subtotal	387	199	85	221		
		Cypress	9	17	10	12		
		Fullerton	5	10	8	7		
		Irvine	1	1	0	1		
		Orange Coast	7	8	1	5		
		Saddleback	7	9	61	25		
		Santa Ana	7	4	7	6		
		OC Subtotal	36	49	87	56		
		Supply Total/Average			423	248	172	277

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 6 and less than 18 semester units and certificates between 30 and less than 60 semester units.

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 commercial music programs in South Orange County Community College District (SOCCCD), the Orange County Region, and California. Of the 953 commercial music students in the 2020-21 academic year, 22% (209) attended a SOCCCD college.

Additionally, SOCCCD students that exited commercial music programs in the 2019-20 academic year had a 96% median change in earnings, which is significantly higher than Orange County (41%) and statewide (44%). Though SOCCCD student that exited commercial music programs in 2019-20 had higher median earnings (\$28,280) than Orange County (\$24,188) and statewide (\$23,234), all figures are significantly below the living wage.

Exhibit 12: Commercial Music (1005.00) Strong Workforce Program Metrics, 2020-21³

SWP Metric	SOCCCD	OC Region	California
SWP Students	209	953	7,241
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	24%	18%	20%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Insufficient Data	76%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	20	46	259
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	17	76	518
SWP Students with a Job Closely Related to Their Field of Study (2018-19)	Insufficient Data	67%	45%
Median Annual Earnings for SWP Exiting Students (2019-20)	\$28,280 (\$13.60)	\$24,188 (\$11.63)	\$23,234 (\$11.17)
Median Change in Earnings for SWP Exiting Students (2019-20)	96%	41%	44%
SWP Exiting Students Who Attained the Living Wage (2019-20)	Insufficient Data	16%	24%

³ All SWP metrics are for 2020-21 unless otherwise noted.

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 commercial music occupations. Exhibit 13 shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes: Recording Arts Technology/Technician (10.0203) and Music Technology (50.0913).

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 in the region conferred an average of 598 awards annually in related training programs; all awards were conferred in Los Angeles County.

Exhibit 13: Regional Non-Community College Awards, 2017-2020

CIP Code	Program	College	2017-2018 Awards	2018-2019 Awards	2019-2020 Awards	3-Year Award Average
10.0203	Recording Arts Technology/Technician	Los Angeles Film School	139	54	0	64
		Loyola Marymount University	10	12	13	12
		Musicians Institute	113	115	73	100
Supply Total/Average			262	181	86	176
50.0913	Music Technology	California Institute of the Arts	6	0	0	2
		Los Angeles College of Music	14	8	21	14
		Los Angeles Film School	329	416	474	406
Supply Total/Average			349	424	495	422
Supply Total/Average			611	605	581	598

Regional Demographics

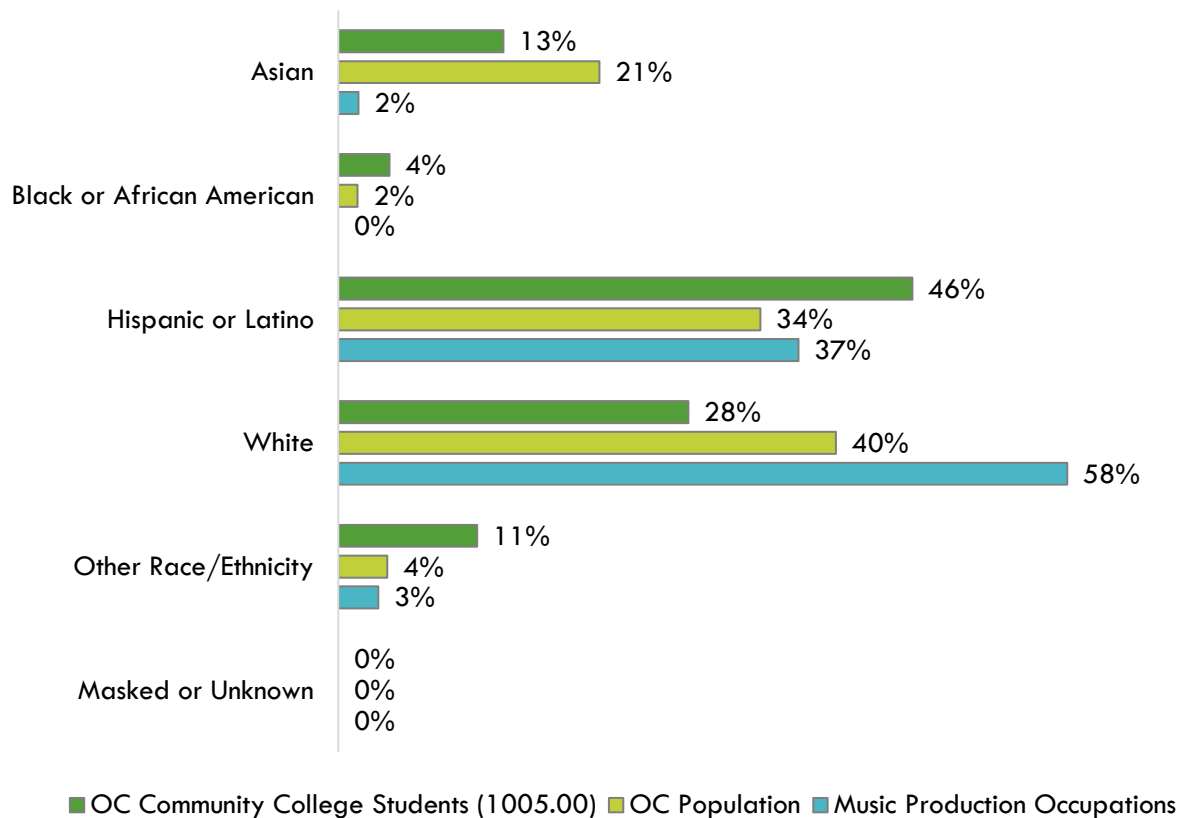
This section analyzes demographic data for Orange County community college students enrolled in commercial music programs compared to the OC population, as well occupational data, for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

Ethnicity:

Exhibit 14 shows the ethnicity of Orange County community college students enrolled in commercial music programs compared to the overall Orange County population, as well as the two commercial music occupations included in this report.

Notably, 58% of workers employed in these commercial music occupations are white, which is significantly higher than the population (40%) and community college commercial music students (28%). Additionally, only 2% of workers in these commercial music occupations are Asian, which is significantly lower than the population (21%), and community college commercial music students (13%).

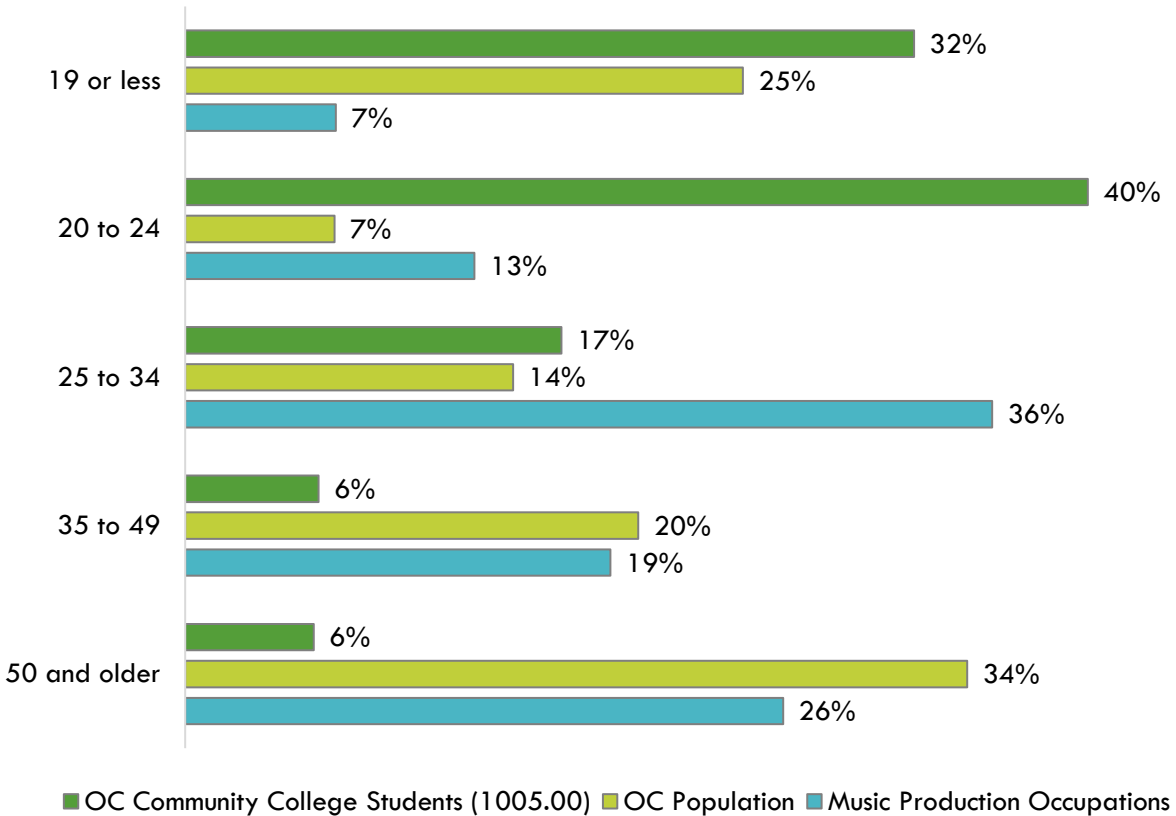
Exhibit 14: Program and County Demographics by Ethnicity



Age:

Exhibit 14 shows the age of Orange County community college students enrolled in commercial music programs compared to the overall Orange County population, as well as the two commercial music occupations included in this report. The vast majority (72%) of community college commercial music students are 24 or less, which is significantly higher than both the population (32%), and these commercial music occupations (19%). Conversely, 36% of workers in these commercial music occupations are 25 to 34, which is significantly higher than the population (14%) and community college commercial music students (17%).

Exhibit 14: Program and County Demographics by Age

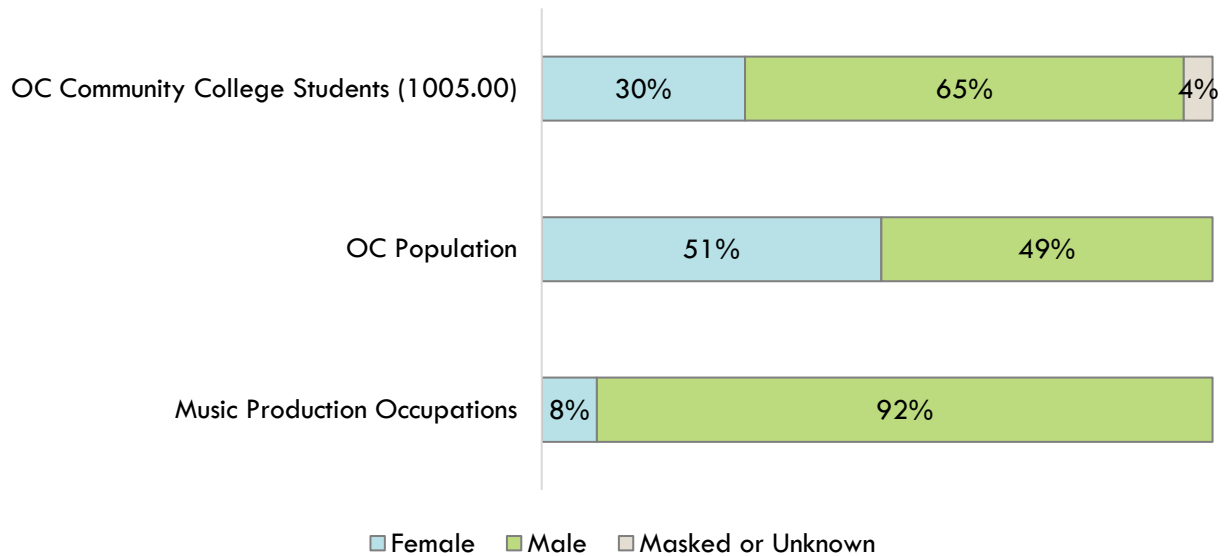


Sex:

Exhibit 15 shows the sex of Orange County community college students enrolled in commercial music programs compared to the overall Orange County population as well as these two commercial music occupations.

Though the population is split nearly evenly, the vast majority (92%) of workers in these commercial music occupations and community college commercial music students (65%) are men.

Exhibit 15: 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>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: https://insightccd.org/family-needs-calculator/</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 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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