



C·O·E

CENTERS OF EXCELLENCE
FOR LABOR MARKET RESEARCH



Orange County Labor Market Overview

November 2023



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INTRODUCTION

The Orange County Center of Excellence for Labor Market Research (OC COE) produced this comprehensive analysis of the labor market landscape of Orange County to assist the community colleges in the selection of their priority sectors, provide support for local and regional career education initiatives – including the California Community College Chancellor’s Office’s (CCCCO) Strong Workforce Program and Perkins V., as well as the CCCCCO’s Vision 2030 goals. The labor market data throughout this report aligns to the existing CCCCCO Sectors, many of which overlap with the four key workforce areas identified within Vision 2030: health care, climate action, STEM, and education.¹ This report is also intended to be an occupational analysis resource for regional stakeholders.

After a brief look at Orange County’s regional profile and economic forecast to provide context, the OC COE offers an in-depth occupational analysis of the county, focusing on occupations that earn at least half of the available eight points for the identified criteria. The OC COE first provides an overview of the methodological approach, followed by a sector-by-sector comparison of the identified criteria, then demographics. Next, the individual sectors are examined for both identified criteria and demographics. Finally, exhaustive appendices are included, providing more details related to the analysis for those that require additional research.

Orange County Profile

Orange County, California is commonly referred to as small, but mighty. The just published 2023-2024 *Orange County Community Indicators*² report, conducted by the Orange County Business Council and partners, provides an apt description of the county and its characteristics. With a land area of only 799 square miles, including 42 miles of coastline, Orange County’s 34 cities and unincorporated lands pack in 3,926 persons per square mile for a total population of just over 3.1 million people, making it more densely populated than Los Angeles and 8% of all of California’s population. Orange County’s median age, as of 2021, is 39.2 years and growing older. The percentage of residents over the age of 65 is expected to increase from 18% to 29% by 2060 while all other age groups decline. Currently, the majority of its population is white (41.1%) followed by Hispanic/Latino (36.8%) however, that is projected to switch by 2060 with Hispanics/Latinos comprising 40.3% of the population and whites 35.9%. The Asian population (18.1%) is also projected to decline by 1% while Multiracial and African Americans are expected to increase slightly. Over a third of Orange County’s residents were born in other countries.

Generally, Orange County residents are older, more highly educated, and earn more than neighboring counties or the state as a whole. Approximately 43.1% of adults over 25 have a bachelor’s degree or higher and 16.3% have a graduate or professional degree. The median Orange County income is \$100,559.

Unfortunately, the county also has some of the highest housing costs in Southern California. Home prices have increased 91% over the last 10 years; however, they have gone down slightly since their peak in April 2022. To buy a home in Orange County, first-time buyers need a minimum qualifying income of \$192,600 for an “entry-level” median priced home of \$1,016,190. Rentals are not any more affordable in Orange County where prices have increased 10.9% in the last year. One now needs to earn \$40.63 per hour to afford a 1-bedroom apartment (\$2,113 fair market rent). If one makes minimum wage, they will need to work a staggering 105 hours per week to afford the same 1-bedroom apartment.

¹ "Strategic Directions," California Community Colleges, accessed November 15, 2023, <https://www.cccco.edu/About-Us/Vision-2030/strategic-directions>.

² Orange County Business Council. 2023-2024 *Orange County Community Indicators*. 2023. <https://ocbc.org/wp-content/uploads/2023/11/CommunityIndicators-23.pdf>.

The high housing costs impact racial and ethnic groups very differently in Orange County. Whites (64%) and Asians (63%) have higher home ownership while those that identify as, “some other race” (64.2%), Native Americans (60.9%), and Hispanic/Latinos (61.5%) have the highest rate of renter-occupied housing.

Orange County, as a whole, is a very prosperous county, however, 9.9% of its residents live in poverty. While 19.2% of its residents earn \$200,000 or more per year, almost a quarter of its residents are classified as low-moderate earners (\$25,000 to \$49,999 per year), low earners (between \$10,000 and \$24,999 per year), or very low earners (less than \$10,000 a year), 12.3%, 7%, and 4.9%, respectively. Orange County’s white population median household income is \$110,482 followed by Asian’s earning \$103,291. Conversely, Hispanics/Latinos earn \$81,025, those who identify as “some other race” earn \$75,885, and Pacific Islanders earn the least with \$68,226.

Another marker of Orange County’s mightiness is its economic health. The county’s gross regional product (GRP), akin to gross domestic product (GDP), was \$284 billion in 2022 which is larger than that of 25 states. According to the Bureau of Labor Statistics, as of October 2023 Orange County’s unemployment rate is 3.2%, the lowest in Southern California and lower than both California and the United States. Orange County has a diverse mix of businesses in both size and industry. With fewer than 50 workers, 96.2% of its businesses are considered small businesses, employing 43.6% of the county’s workforce. The number of larger businesses has been increasing, with 187 businesses with more than 500 workers in 2022 (7% increase from the previous year) and those with 1,000 or more workers increasing to 67 business from 62 in 2021. The county has also seen employment increases in six industry clusters: tourism, defense and aerospace, energy and environment, health services, construction, and biomedical between Q4 2021 and Q4 2022. Four industry clusters: computer software, communication, computer hardware, and business and professional services declined during the same time-period. Orange County’s occupations will be examined in the remainder of the report by the OC COE.

OC Economic Forecast

Drs. Anil Puri, Director, and Mira Farka, Co-Director, of the Woods Center for Economic Analysis and Forecasting at California State University, Fullerton’s College of Business and Economics presents an annual economic forecast that includes a three-year outlook for the national, state, and Orange County economies each October. This year’s report, *Economic Forecast 2024: MISSION IMPOSSIBLE? Searching for Growth in an Inflationary Economy*³, includes a thorough examination of these economies which shows that generally, they are back to pre-pandemic levels across the board. While this news is positive overall, their forecast includes an eventual downturn, as shared in the excerpt below:

“Resilient consumer spending and easing supply constraints have kept the economy humming in the face of a historic increase in interest rates over the past year and a half. As a result, much of the anticipated slowdown has been pushed back, but our baseline scenario, for the reasons explained in our macro analysis, remains one of a garden-variety recession sometimes in the second half of 2024. Signs of weakening of economic momentum are becoming more prevalent and the history of economic fluctuations indicates that soft landings are rare phenomena.

We expect the Southern California economy to experience a downturn similar to the national economy. The Orange County unemployment rate is expected to average 3.5% in 2023, 4.5% in 2024, and 4.2% in 2025. The trough of unemployment will occur towards the end of 2024 and the beginning of 2025, when we expect the rate to reach 5% or higher.”

See the report for more information including detailed tables of the national, Southern California, Orange County, and neighboring county’s economic forecast.

³ Puri, Ph.D., Anil K., and Mira Farka, Ph.D. *Economic Forecast 2024: MISSION IMPOSSIBLE? Searching for Growth in an Inflationary Economy*. Orange County, CA: California State University, Fullerton’s Woods Center for Economic Analysis and Forecasting, 2023. <https://business.fullerton.edu/engagement/economic-analysis-and-forecasting/assets/pdf/Economic-Forecast-Report-23.pdf>.

SUMMARY ANALYSIS

The Orange County Center of Excellence for Labor Market Research (OC COE) produced this comprehensive analysis of the labor market landscape of Orange County, delving into its economic sectors. Eleven occupational sectors plus “Other” were analyzed in this study to assist Orange County’s community colleges in the selection of their priority sectors and with strategic planning – both local and regional.

Sectors analyzed in this report include:

1. Advanced Manufacturing
2. Advanced Transportation and Logistics
3. Agriculture, Water, and Environmental Technologies
4. Business and Entrepreneurship
5. Education and Human Development
6. Energy, Construction, and Utilities
7. Health
8. Information and Communication Technologies (ICT) and Digital Media
9. Life Sciences and Biotechnology
10. Public Safety
11. Retail, Hospitality, and Tourism
12. Other*

Other (*) represents a diverse category of occupations that do not neatly fit into specific and/or predefined California Community College Chancellor’s Office (CCCCO) sectors⁴. It is a catch-all category used for occupations that are less common (e.g., clergy), highly specialized (e.g., economists, physicist, statisticians), or simply do not have a well-defined sector or industry associated with them (e.g., interpreters and translators).

In the pursuit of comprehensive understanding, analysis began with all 796 occupations in the Bureau of Labor Statistics (BLS) Standard Occupational Classification (SOC) system. Occupations with fewer than 10 jobs in 2022 were removed since they were considered statistically insignificant. The remaining 775 occupations that form Orange County’s labor force were then classified into one of the CCCCCO sectors. Eight criteria for these occupations were analyzed, earning one point for each criterion they met. OC COE research determined that the appropriate cut-off was four points. The final 338 occupations in this report met or surpassed that benchmark and then were meticulously examined. This stringent selection process ensures that this analysis is centered on those occupations with significant impact to Orange County’s sectors.

Specifically, the OC COE used 8 different data criteria to rank each occupation. Occupations earned one point for each of the following metrics met:

1. 2022 Jobs above the median number of jobs across all occupations
2. 2022 - 2027 % Change above the projected change for all occupations
3. Average Annual Openings above the median for all occupations
4. Entry-level wages above the Living Wage (Insight)
5. Entry-level wages above the Living Wage (MIT)
6. Being listed as a Great Recession, COVID-19 Pandemic, or Overall Resilient occupation⁵
7. Being listed on the U.S. News & World Report 2023 Best Job list⁶
8. A Lightcast Automation Index score of 100 or less, indicating a lower-than-average risk of automation⁷

⁴ [TOP Codes Assigned to Industry Sectors PDF - LaunchBoard Resources \(wested.org\)](#)

⁵ [OC Resilient Jobs & Jobs for Recovery - Centers of Excellence for Labor Market Research \(coeccc.net\)](#)

⁶ [2023’s 100 Best Jobs in America | Best Jobs Rankings | US News Careers](#)

⁷ "Automation Index Methodology," Lightcast Knowledge Base, accessed November 15, 2023, <https://kb.lightcast.io/en/articles/6957638-automation-index-methodology>.

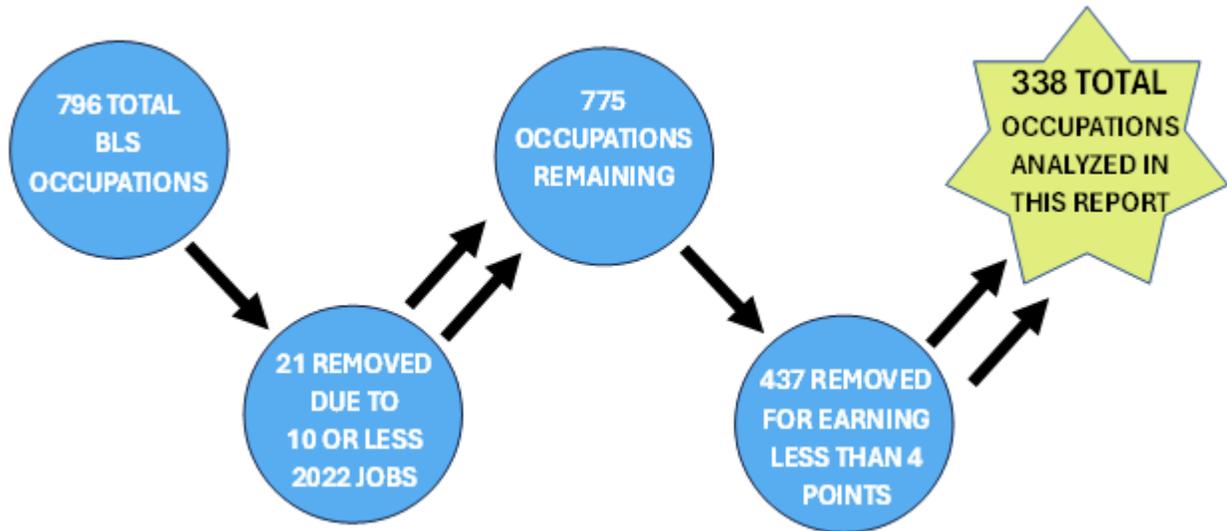
Exhibit 1: Criteria Used to Evaluate Occupations

2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Lightcast's Automation Index
579	6.62%	63.5	\$20.63	\$23.66	Yes	Yes	100

In 2022, Orange County boasted a robust employment landscape, with a staggering 1.83 million jobs within the 775 analyzed occupations. Orange County had the second highest number of jobs of all counties in California. Only Los Angeles County – which has triple the population and four-times the land area of Orange County – had a higher number of jobs. What makes this report particularly noteworthy is its attention on the 338 occupations that earned four or more points during evaluation, collectively accounting for 979,203 jobs - 53% of all Orange County jobs. This refined selection allows us to a focused analysis on the occupations, and thereby sectors, that not only sustain Orange County’s economic engine but also exhibit exceptional performance across the established metrics.

Exhibit 2 shows the process for determining the 338 occupations for analysis in this report. The full methodology is included in Appendix A.

Exhibit 2: Pathway to the Analyzed Occupations



Occupational Analysis

Of the 796 occupations classified by BLS, 775 qualified to earn points via the criteria identified for this report. Of these, 338 occupations earned four or more points and are analyzed in this report, representing 44% of the total number of occupations in the BLS SOC system that qualified to earn points. The 338 occupations analyzed in this report comprise 53% of all Orange County jobs in 2022 and 47% of its annual openings. Exhibit 3 visualizes the total number of occupations compared to those analyzed in this report by CCCCCO sector.

Exhibit 3: Number of BLS Occupations vs. Number Analyzed in this Report by Sector

Sector	Total # of BLS Occupations	Total # of Occupations in this Report	% of Total BLS Occupations
Advanced Manufacturing	103	13	13%
Advanced Transportation and Logistics	61	19	31%
Agriculture, Water, and Environmental Technologies	38	9	24%
Business and Entrepreneurship	101	59	58%
Education and Human Development	34	29	85%
Energy, Construction, and Utilities	104	35	34%
Health	99	79	80%
Information and Communication Technologies (ICT)/Digital Media	49	30	61%
Life Sciences and Biotechnology	8	5	63%
Other	100	31	31%
Public Safety	28	15	54%
Retail, Hospitality, and Tourism	50	14	28%
Grand Total	775	338	44%

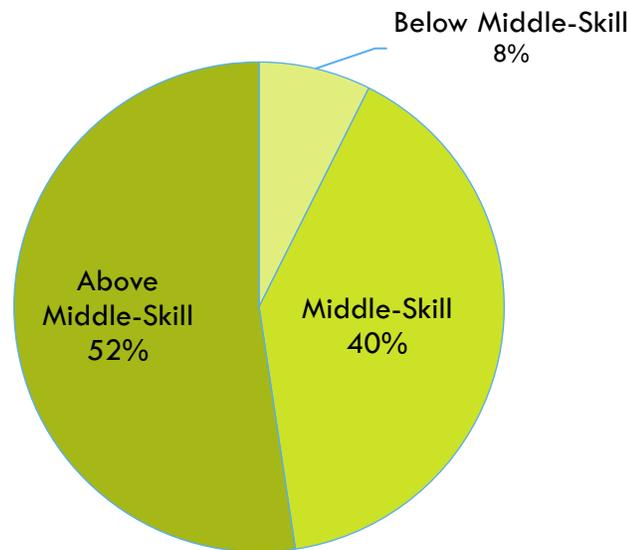
Occupational Skill-Level

In addition to the criteria examined in this report, it is important to understand the occupational skill-level distribution of these 338 occupations. Generally, below middle-skill jobs require less than a community college education, middle-skill jobs require a community college education, and above middle-skill jobs require a bachelor's degree or more.

Notably, 52% (176) of these occupations are categorized as above middle-skill, indicating a higher degree of education and training requirements. Though a slight majority of these occupations are above middle-skill, a significant percentage – 40% (138) – fall into the middle-skill category. In contrast, only 8% (27) of the analyzed occupations are classified as below middle-skill.

No below middle-skill occupations earned more than five points, while multiple middle-skill and above middle-skill occupations earned the maximum number of eight points. Generally, occupations with higher typical education requirements had higher wages, a lower risk of automation, and were more likely to be resilient and listed on the U.S. News & World Report 100 Best Jobs 2023 list. These trends explain why there is a higher percentage of above middle-skill and middle-skill occupations when compared to below middle-skill occupations. Exhibit 4 shows the occupational skill level of the 338 occupations analyzed in this report.

Exhibit 4: Occupational Skill-Levels of the 338 Occupations



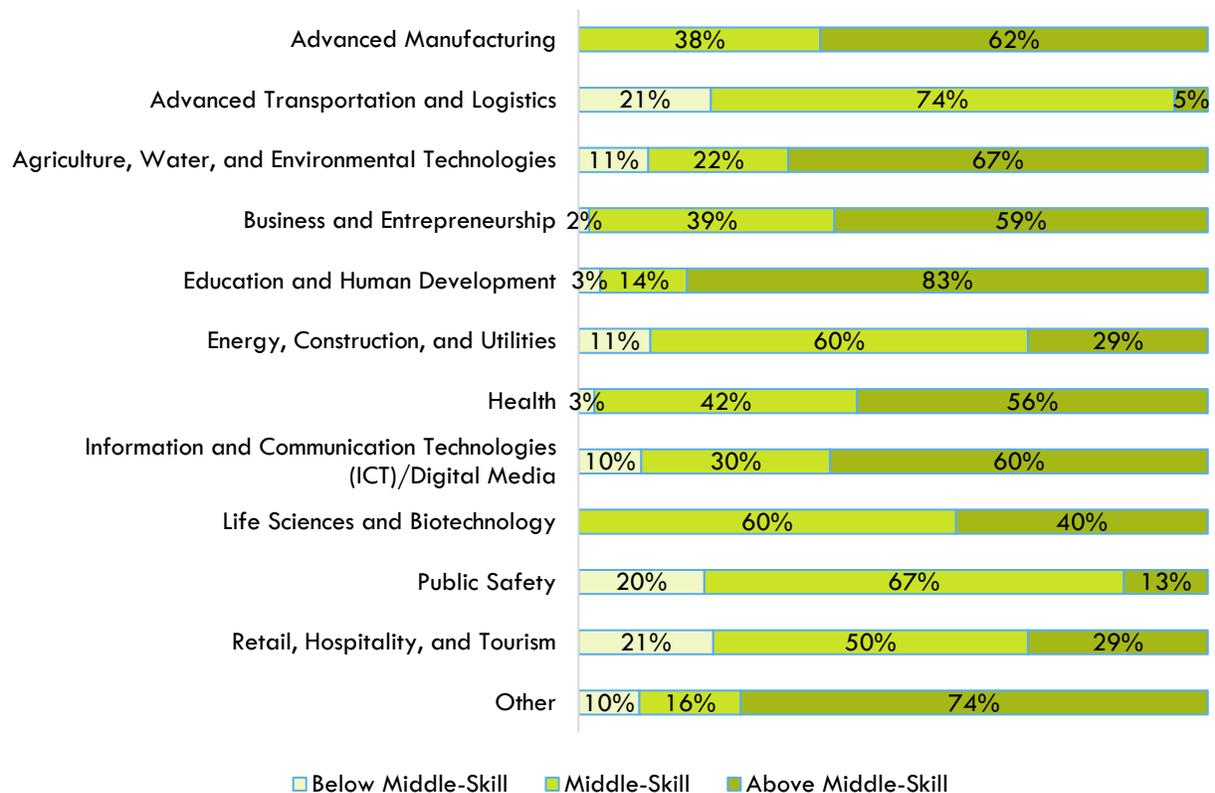
Skill-Level by Sector

Examining the occupational skill-level distribution by sector reveals several findings:

- The sectors with the highest percentage of above middle-skill occupations are **Education and Human Development** (83%); **Other** (74%); and **Agriculture, Water, and Environmental Technologies** (67%).
- The sectors with the highest percentage of middle-skill occupations are **Advanced Transportation and Logistics** (74%); **Public Safety** (67%); **Energy, Construction, and Utilities** (60%); and **Life Sciences and Biotechnology** (60%).
- The sectors with the lowest percentage of middle-skill occupations are **Education and Human Development** (14%); **Other** (16%); **Agriculture, Water, and Environmental Technologies** (22%); and **Information and Communication Technologies (ICT)/Digital Media** (30%).
- **Advanced Transportation and Logistics** (21%); **Retail, Hospitality, Tourism** (21%); and **Public Safety** (20%) have the largest percentage of below middle-skill occupations analyzed in this report.
- 2 sectors do not include any below middle-skill occupations: **Advanced Manufacturing** and **Life Sciences and Biotechnology**.

Exhibit 5 shows the occupational skill-level distribution for each sector.

Exhibit 5: Occupational Skill-Level Distribution by Sector



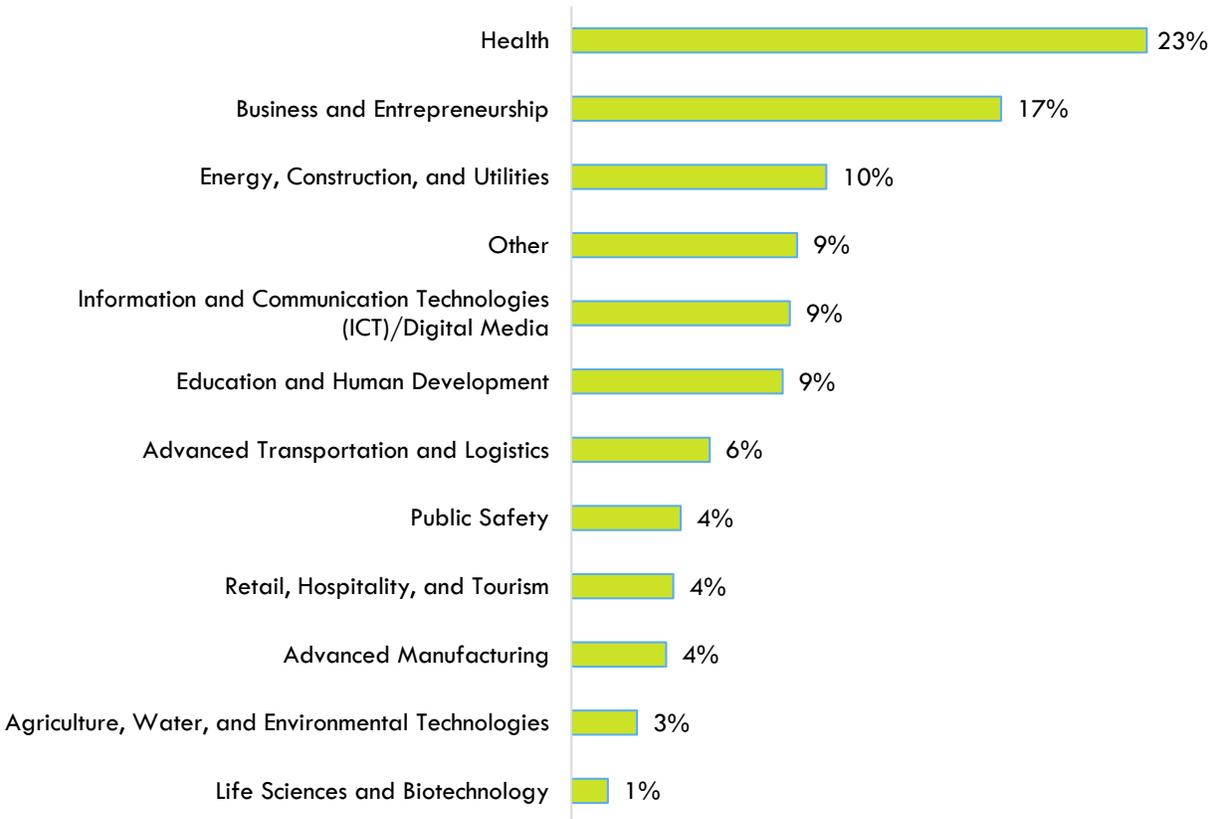
Sector Overview

Before examining individual sectors, it is important to understand how the sectors compare to one another in Orange County by the 8 criteria utilized throughout this report. The following are notable observations on the number of occupations in each sector based on the 338 occupations analyzed.

- **Health** has the largest number of occupations, comprising nearly a quarter of all occupations analyzed in this report.
- Half of all occupations in this report are within 3 sectors: **Health** (23%); **Business and Entrepreneurship** (17%); and **Energy, Construction, and Utilities** (10%).
- **Life Sciences and Biotechnology** (1%) has the smallest number of occupations, followed by **Agriculture, Water, and Environmental Technologies** (3%).
- **Public Safety, Retail, Hospitality, and Tourism**, and **Advanced Manufacturing** each account for 4% of the occupations in this report.

Exhibit 6 shows the percentage distribution, by sector, of the 338 occupations analyzed in this report.

Exhibit 6: Sector Breakdown of 338 Occupations Analyzed in this Report



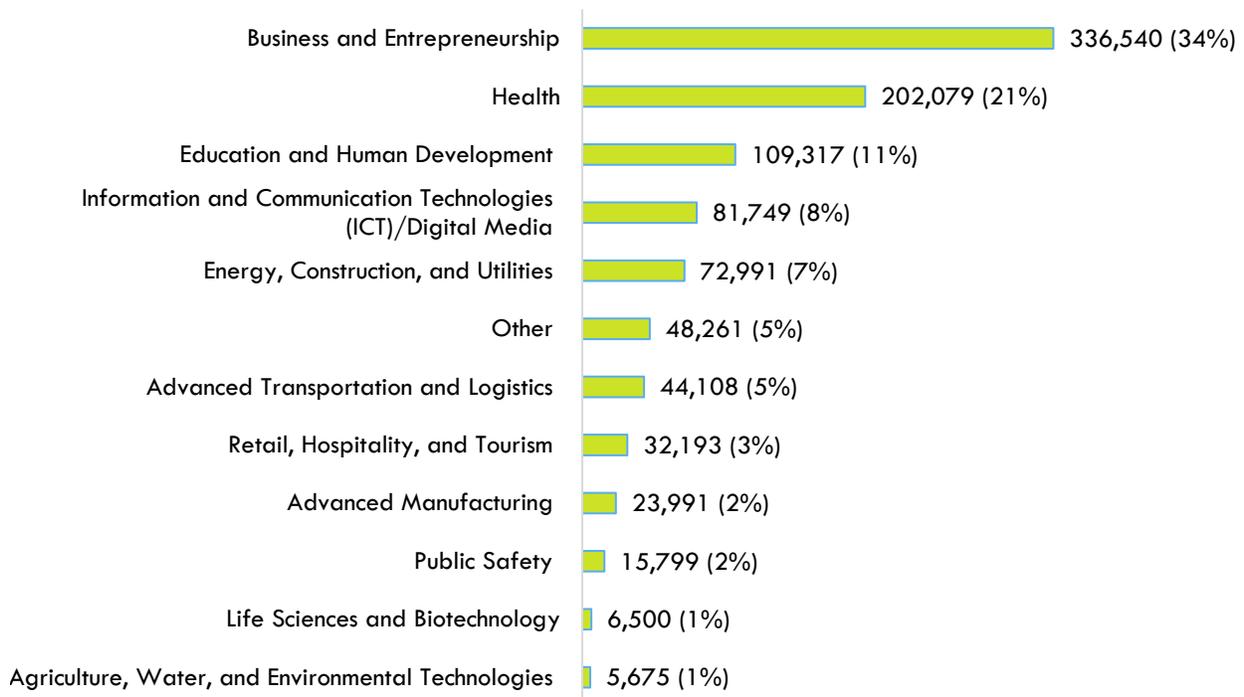
Number of Jobs by Sector

These 338 occupations accounted for 979,203 jobs in 2022, which represents 53% of all jobs in Orange County. The following are notable observations of the number of jobs in 2022 by sector.

- The sectors with the most jobs in 2022 were **Business and Entrepreneurship** (336,540); **Health** (202,079); and **Education and Human Development** (109,317).
- **Business and Entrepreneurship** accounted for 34% of all jobs in 2022.
- **Agriculture, Water, and Environmental Technologies** (1%); **Life Sciences and Biotechnology** (1%); **Public Safety** (2%); and **Advanced Manufacturing** (2%) are the smallest sectors, accounting for a total of 6% of all jobs in 2022.

Exhibit 7 shows the total number of 2022 jobs by sector for the 338 occupations analyzed in this report.

Exhibit 7: Number of Jobs in 2022 by Sector



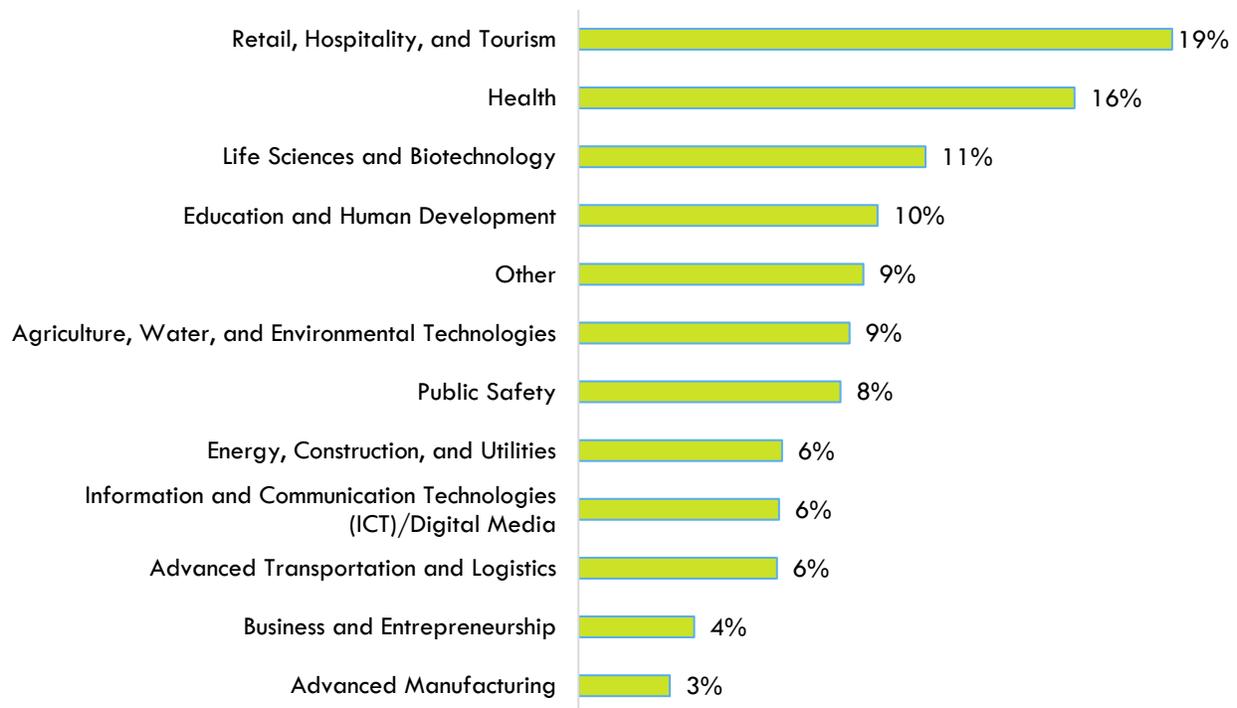
Projected 5-Year Percent Change by Sector

The number of jobs for these 338 occupations in Orange County is projected to increase 8.27% from 2022 to 2027, which is nearly two percentage points higher than the projected 6.62% across all occupations. The following are notable observations of the percentage change in jobs through 2027 by sector.

- The sectors that are projected to experience the largest percentage increase in employment are **Retail, Hospitality, and Tourism** (19%); **Health** (16%); and **Life Sciences and Biotechnology** (11%).
- However, **Retail, Hospitality, and Tourism** occupations make up only 3% of Orange County’s jobs in 2022 and **Life Sciences and Biotechnology** comprises only 1%, which means the actual number of jobs represented by these sectors’ growth is relatively small.
- **Advanced Manufacturing** is projected to have the smallest percentage increase in employment (3%), followed by **Business and Entrepreneurship** (4%). However, the latter had the most jobs in Orange County in 2022. So, despite the small growth, the 4% increase represents a relatively large number of jobs.

Exhibit 8 shows the projected 5-year percent change by sector for the 338 occupations analyzed in this report.

Exhibit 8: Projected 5-Year Percent Change by Sector



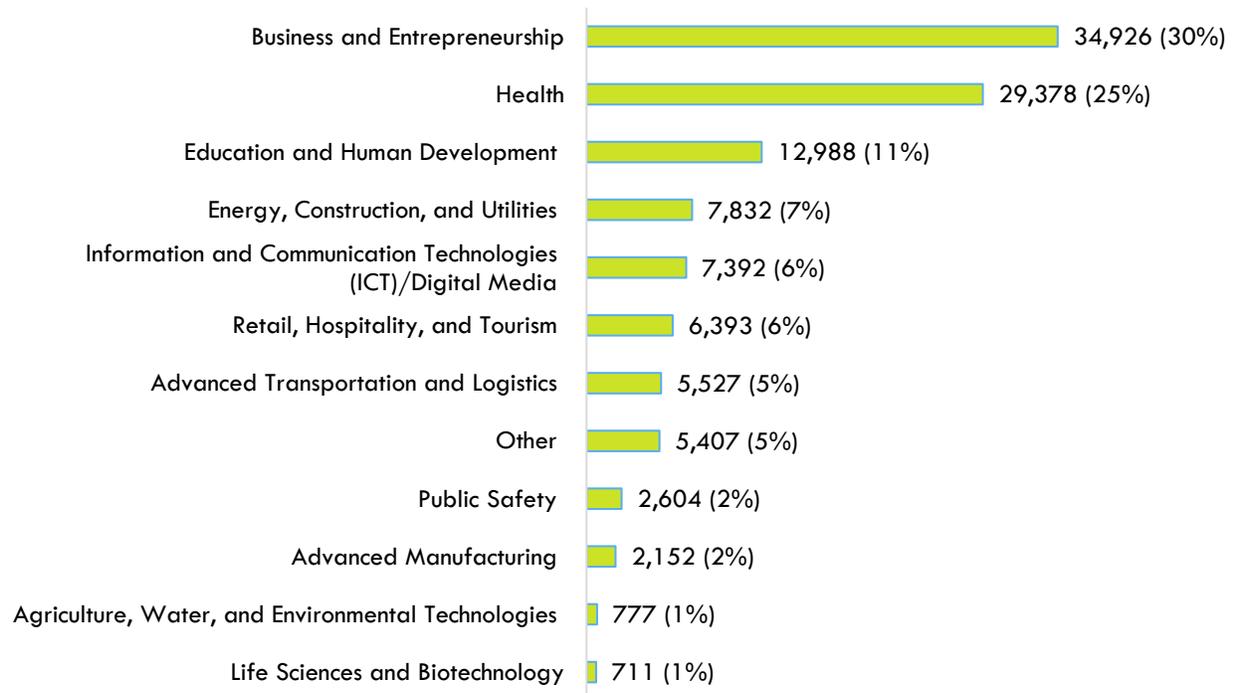
Annual Openings by Sector

Annual openings, also known as “demand,” represents the projected number of jobs expected to be available each year through 2027. This figure accounts for both job creation and the need to replace workers due to retirements or workers leaving the field. The following are notable observations of Orange County’s occupational annual openings through 2027 by sector.

- Two sectors are projected to account for 55% of annual job openings: **Business and Entrepreneurship** (30%) and **Health** (25%)
- Comparatively, **Public Safety** (2%); **Advanced Manufacturing** (2%); **Agriculture, Water, and Environmental Technologies** (1%); and **Life Sciences and Biotechnology** (1%) combined account for just 6% of all annual openings.

Exhibit 9 shows the projected annual openings by sector for the 338 occupations analyzed in this report.

Exhibit 9: Annual Openings by Sector



Entry-Level Wages by Sector

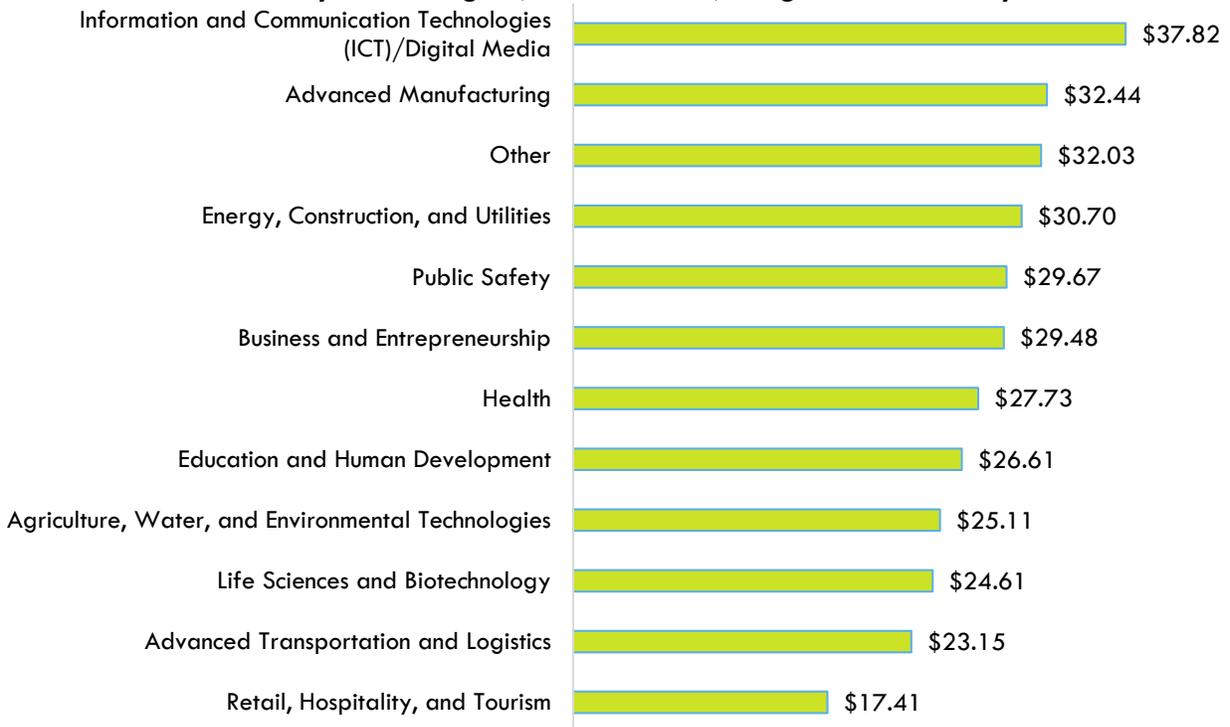
In Orange County, the California Insight Center's Living Wage for one adult is \$20.63 per hour, which is the floor benchmark for wages in the county. Impressively, typical weighted, by jobs, entry-level wages for 11 of the 12 sectors exceed this hourly wage. Even more impressive is that typical weighted entry-level wages for 10 of the 12 sectors exceed MIT's Living Wage, which is \$3 higher (\$23.66). While the CCCCCO uses California Insight Center's Living Wage as a Strong Workforce Program incentive metric, the MIT Living Wage is updated annually and better considers the recent increase in inflation. Hence, an occupation can earn one point for meeting each benchmark in this report's analysis.

The following are notable sector observations of Orange County's 25th percentile entry-level wages for the 338 occupations analyzed in this report.

- **Information and Communication Technologies (ICT)/Digital Media** sector leads the way with a weighted entry-level hourly wage of \$37.82, followed by **Advanced Manufacturing** (\$32.44) and **Other** (\$32.03) .
- **Retail, Hospitality, and Tourism** (\$17.41) is the only sector that does not meet either living wage metric.
- **Advanced Transportation and Logistics** (\$23.15) meets the California Insight metric but not the MIT Living Wage metric.
- Within their respective sectors, **Energy, Construction and Utilities** (94%), **Advanced Manufacturing** (92%), followed by **Business and Entrepreneurship** (80%), and **Public Safety** (80%) have the highest percentage of occupations meeting both living wage metrics.
 - Notably, the **Energy, Construction and Utilities** sector has the third highest number (21) of middle-skill occupations analyzed in this report; following **Business and Entrepreneurship** (23) **then Health** (33).

Exhibit 10 shows the typical average entry-level wages, weighted by number of 2022 jobs, by sector for the 338 occupations analyzed in this report.

Exhibit 10: Entry-Level Wages (25th Percentile) Weighted via Jobs by Sector



Resilient Jobs by Sector

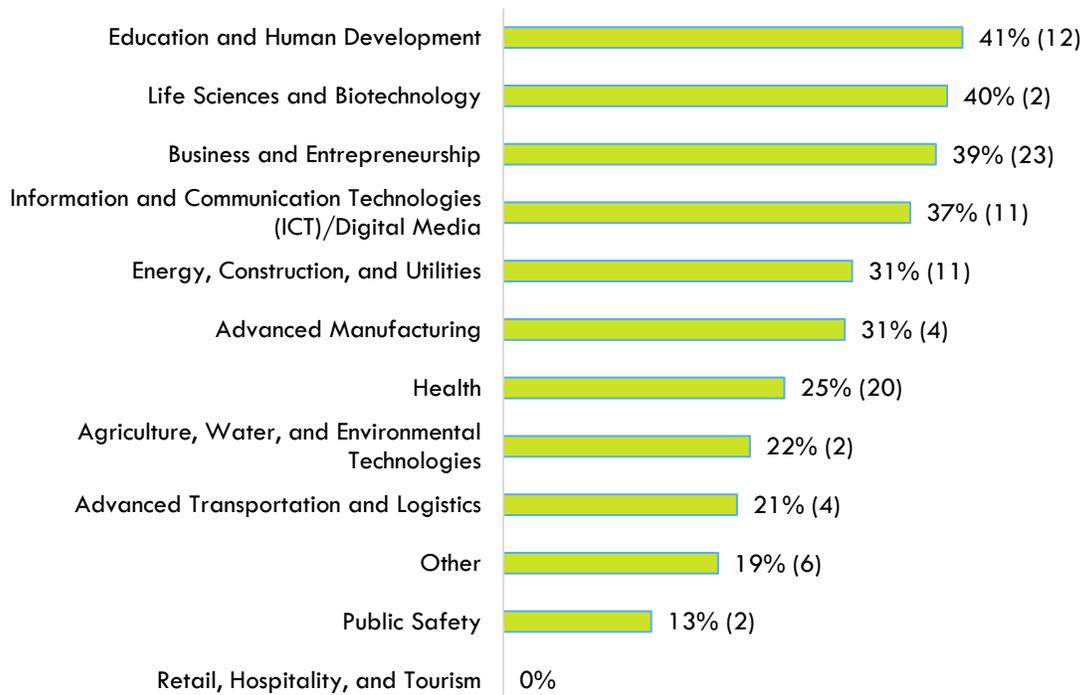
The OC COE published *Resilient Jobs & Jobs for Recovery* in March 2023. This report did an exhaustive analysis of past economic downturns in Orange County to project which occupations would be resilient – stable jobs, openings, and wages – in future economic downturns. The 338 occupations analyzed in this report received one point if they were considered a “Great Recession”, “COVID-19 Pandemic”, or “Overall Resilient” – otherwise known as a “Resilient Job” in *Resilient Jobs & Jobs for Recovery*.

The following are notable sector observations of Orange County’s Resilient Jobs within the 338 occupations analyzed in this report.

- At least one-third of the analyzed occupations within the **Education and Human Development** (41%); **Life Sciences and Biotechnology** (40%); **Business and Entrepreneurship** (39%); and **Information and Communication Technologies (ICT)/Digital Media** (37%) sectors are considered a Resilient Job.
 - It is important to note the absolute number of occupations that are Resilient Jobs within each sector (e.g., 40% of **Life Sciences and Biotechnology’s** occupations are Resilient Jobs, however, the entire sector is only comprised of 5 occupations).
- In terms of actual occupations, the **Business and Entrepreneurship** (23) and **Health** (20) sectors have the highest number of Resilient Jobs.
 - Consequently, these two sectors also have the most occupations.
- **Retail, Hospitality, and Tourism** is the only sector without at least one Resilient Job.
 - Notably, **Retail, Hospitality, and Tourism** whose weighted entry-level hourly wage is \$17.41, is the only sector that does not meet either living wage metric.

Exhibit 11 shows the percentage of occupations, as well as the actual number, that qualify as a Resilient Job for each sector for the 338 occupations analyzed in this report.

Exhibit 11: Great Recession, COVID-19 Pandemic, or Overall Resilient Criteria by Sector



U.S. News & World Report 2023 Best Jobs by Sector

The 338 occupations analyzed in this report were compared to U.S. News & World Report's 100 Best Jobs of 2023.⁸ U.S. News considers several factors in its Best Jobs rankings, including projected growth, salary, stress level, and work-life balance. Each researched occupation received one point if they were on the U.S. News and World Report 100 Best Jobs 2023 list.

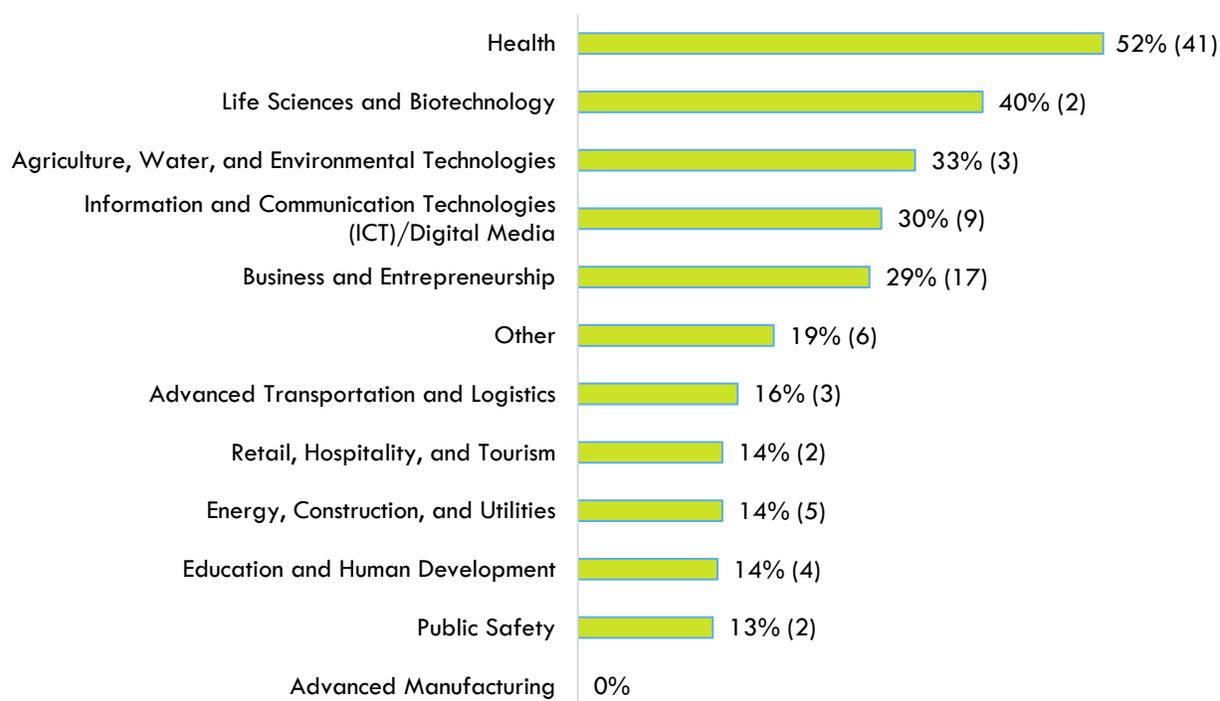
The following are notable sector observations of Orange County's U.S. News & World Report 100 Best Jobs of 2023.

- The **Health** sector boasts the greatest number of occupations in the U.S. News & World Report 2023 Best Job category with 41 qualifying occupations, followed by **Business and Entrepreneurship** (17).
- **Life Sciences and Biotechnology** (2); **Retail, Hospitality and Tourism** (2); and **Public Safety** (2) sectors have the fewest number of occupations that meet the U.S. News & World Report 2023 Best Job criteria.
 - However, in the **Life Sciences and Biotechnology** sector, 2 of the 5 occupations analyzed in this report meet the criteria, constituting 40% of the sector.
- **Advanced Manufacturing** is the only sector without at least one occupation meeting this criterion.

⁸ "100 Best Jobs," U.S. News and World Report, accessed April 14, 2023, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.

Exhibit 12 shows the percentage and actual number of occupations, by sector, that are included in the U.S. News & World Report 2023 Best Job list.

Exhibit 12: U.S. News & World Report 2023 Best Job Criteria by Sector



Lightcast’s Automation Index by Sector

Lightcast’s Automation Index captures an occupation’s risk of being affected by automation using four measures:

- % of time spent on high-risk work
- % of time spent on low-risk work
- Number of high-risk jobs in compatible occupations
- Overall industry automation risk

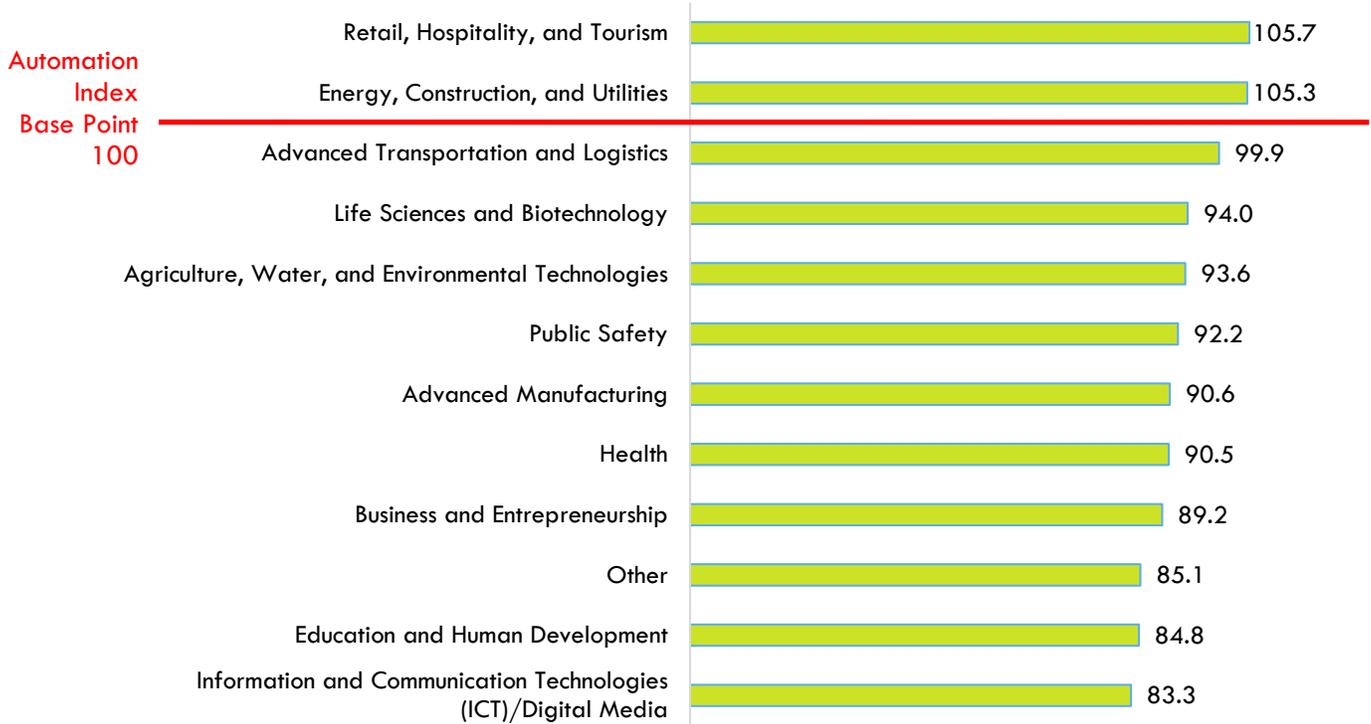
Lightcast’s Automation Index is presented as a scale with a base of 100. An automation index greater than 100 indicates a higher-than-average risk of automation; conversely, an automation index less than 100 indicates a lower-than-average risk of automation.⁹ The following are notable sector automation index observations of the 338 occupations analyzed in this report.

- **Retail, Hospitality, and Tourism** (105.7), and **Energy, Construction, and Utilities** (105.3), have the highest risk for automation.
 - Notably, they are the only two sectors above 100 in Lightcast’s Automation Index.
- The **Advanced Transportation and Logistics** (99.9) sector is a hair below the automation index tipping point of 100.
- Conversely, **Information and Communication Technologies (ICT)/Digital Media** (83.3) and **Education and Human Development** (84.8) have the lowest susceptibility to automation risk.

⁹ [Automation Index | Lightcast Knowledge Base](#)

Exhibit 13 shows each sector's automation risk based on Lightcast's Automation Index.

Exhibit 13: Automation Index by Sector



Demographics by Sector

In addition to the labor market information, it is important to consider the demographics of those working in the 338 occupations analyzed in this report. This section analyzes demographic information for each sector to identify differences across sectors.

In the individual sector sections within this report, the demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

Demographic information for the occupations, sectors, and Orange County population is from the Census Bureau's American Community Survey¹⁰ and student demographic information is from LaunchBoard.¹¹ Detailed demographic data for each occupation analyzed in this report is included in Appendix D.

Ethnicity by Sector

Currently, the Census Bureau collects and reports data on five races and classifies ethnicity as either "Hispanic or Latino" or "Not Hispanic or Latino". Conversely, the CCCCOC collects and reports data on eight races/ethnicities. To harmonize these differences, the ethnicity data included throughout this report focuses on five ethnicities: Asian, Black or African American, Hispanic or Latino, white, and Other Race/Ethnicity.

Following are notable observations of the sectors by ethnicity.

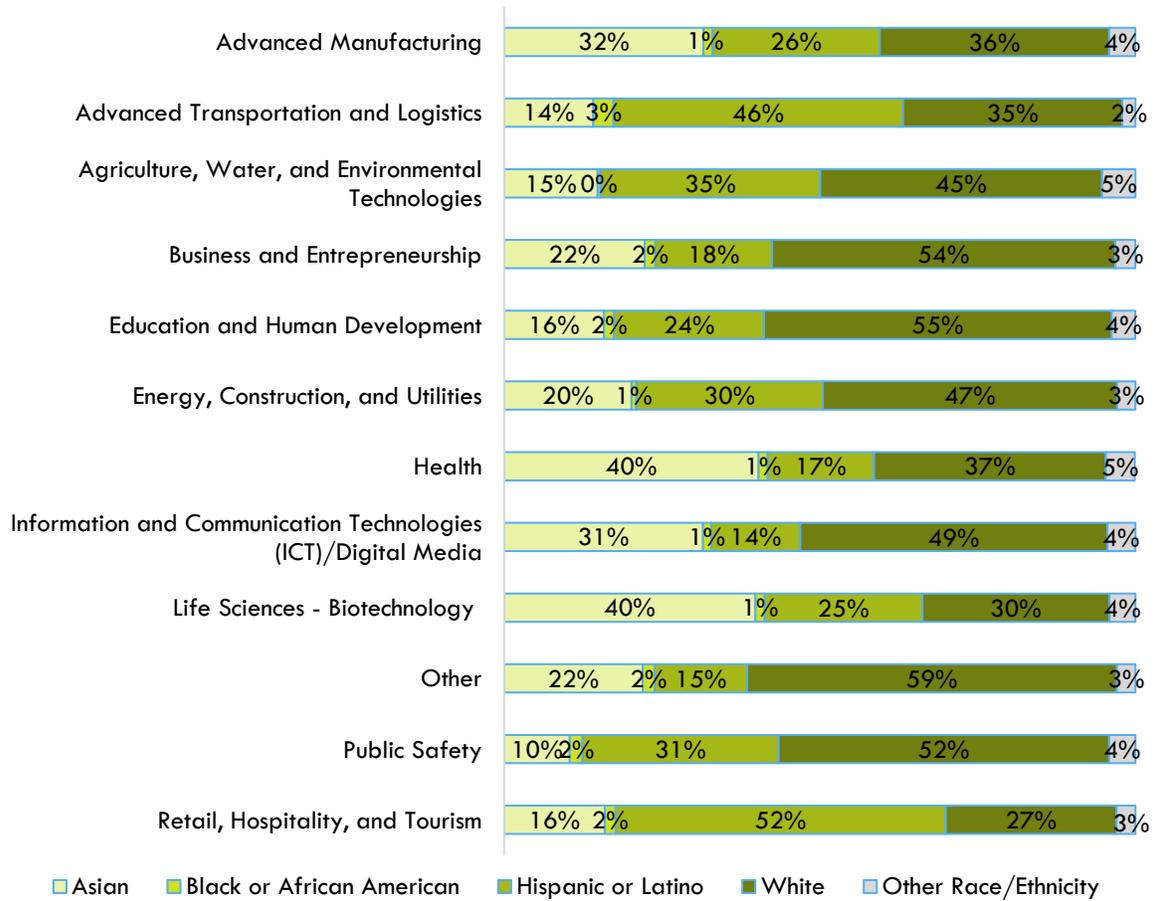
- White workers are the plurality or majority in 8 of the 12 sectors: **Advanced Manufacturing** (36%); **Agriculture, Water, and Environmental Technologies** (45%); **Business and Entrepreneurship** (54%); **Education and Human Development** (55%); **Energy, Construction, and Utilities** (47%); **Information and Communication Technologies (ICT)/Digital Media** (49%); **Other** (59%); and **Public Safety** (52%).
- Asian workers are the plurality in 2 sectors: **Health** (40%) and **Life Sciences and Biotechnology** (40%).
- Hispanic or Latino workers are the plurality in **Advanced Transportation and Logistics** (46%) and the majority in **Retail, Hospitality, and Tourism** (52%).
 - These sectors have the lowest overall entry-level wages (see Exhibit 10).
- Black or African American workers comprise 3% or less in each sector, which is just above the Black or African American population in Orange County (2%).

¹⁰ American Community Survey (ACS) Data was collected via 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>.

¹¹ 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>

Exhibit 14 shows the breakdown of ethnicity by sector.

Exhibit 14: Sector Demographics by Ethnicity



Age by Sector

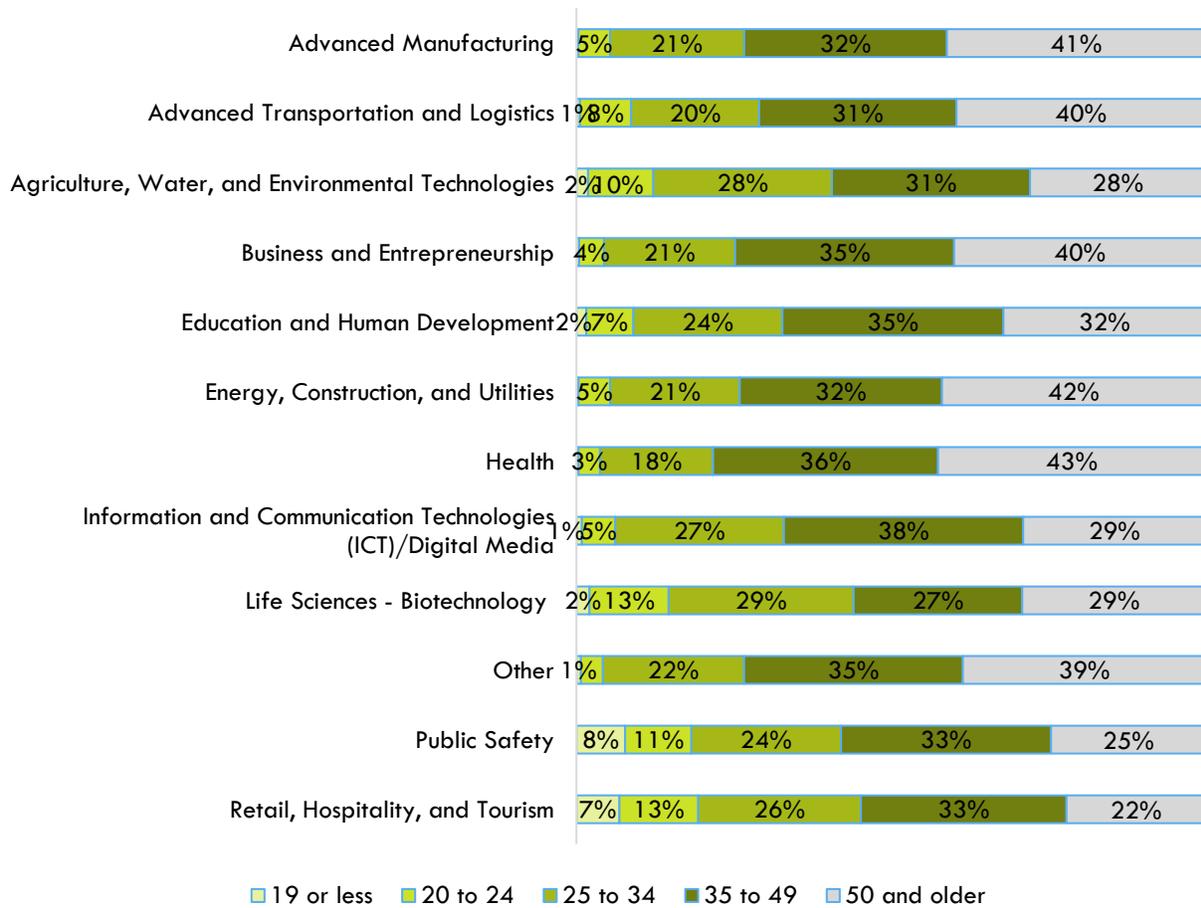
The Census Bureau and CCCCCO collect data on age. The CCCCCO aggregates student data into five age groups in LaunchBoard: 19 or less, 20 to 24, 25 to 34, 35 to 49, and 50 and older. Census Bureau data was cleaned and organized to align to these age groups for the purposes of this report. It is also important to note that the 19 or less age group typically has a significantly lower labor force participation than the general population. Therefore, this group is usually small when examining occupational data.

Following are notable observations of the sectors by age.

- Of the 12 sectors, 50 and older workers are the plurality in 7: **Health** (43%); **Energy, Construction, and Utilities** (42%); **Advanced Manufacturing** (41%); **Advanced Transportation and Logistics** (40%); **Business and Entrepreneurship** (40%); **Other** (39%); and **Life Sciences and Biotechnology** (29%).
 - The **Advanced Manufacturing** and **Other** sectors have the second and third highest entry-level hourly wages, \$32.44 and \$32.03, respectively.
- Workers 35 to 49 years are the plurality in **Information and Communication Technologies (ICT)/Digital Media** (38%); **Education and Human Development** (35%); **Public Safety** (33%); **Retail, Hospitality, and Tourism** (33%); and **Agriculture, Water, and Environmental Technologies** (31%).
 - **Information and Communication Technologies (ICT)/Digital Media** is the sector with the highest hourly wage (\$37.82).
- **Public Safety** and **Retail, Hospitality, and Tourism** are the two sectors with the largest percentage of young workers (24 years or less) – 19% and 20% respectively.
 - It is noteworthy that **Retail, Hospitality, and Tourism** is the only sector with an entry-level hourly wage below both Living Wages (Insight and MIT).

Exhibit 15 shows the breakdown of age by sector.

Exhibit 15: Sector Demographics by Age



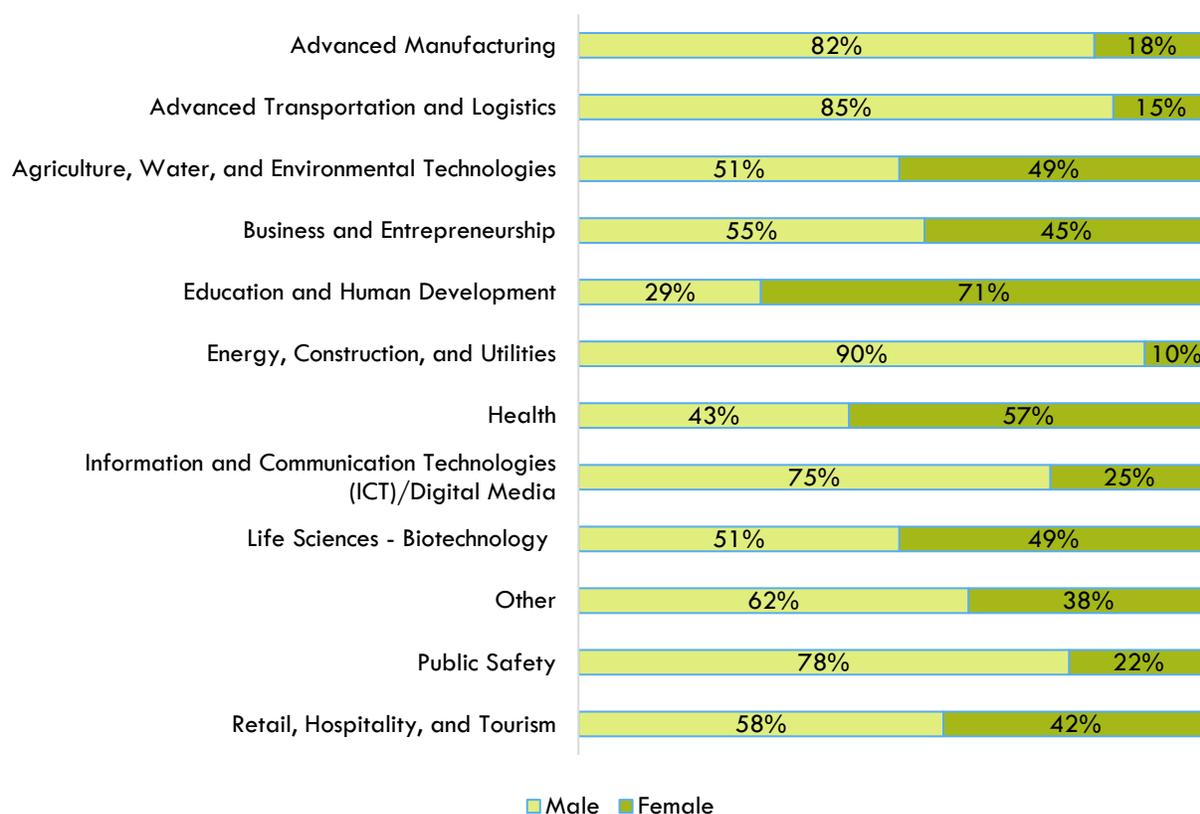
Sex by Sector

Currently, the Census Bureau does not include questions or collect data on gender identity and only includes data on biological sex. As of 2019, the CCCCO collects and reports data on three genders: female, male, and non-binary. Additionally, the CCCCO also masks data for small groups in order to protect student identities in compliance with the Family Educational Privacy Rights Act (FERPA). For these reasons, the sex data analyzed throughout this report includes data on biological sex and acknowledges any masked student data, which may include non-binary students or students that did not provide a gender.

- Male workers are the majority in 10 of 12 sectors.
- Female workers are the majority in only 2 sectors: **Education and Human Development** (71%) and **Health** (67%).
- Men comprise at least 75% of the sector in **Energy, Construction, and Utilities** (90%); **Advanced Transportation and Logistics** (85%); **Advanced Manufacturing** (82%); **Public Safety** (78%); and **Information and Communication Technologies (ICT)/Digital Media** (75%).
 - Except for **Advanced Transportation and Logistics**, these sectors represent four of the top five sectors for highest typical entry-level wages.
- **Energy, Construction, and Utilities** (10%) has the fewest female workers.
- **Agriculture, Water, and Environmental Technologies** and **Life Sciences and Biotechnology** are the only sectors split nearly evenly between male and female workers.

Exhibit 16 shows the breakdown of sex by sector.

Exhibit 16: Sector Demographics by Sex



Diversity, Equity, and Inclusion

For the purpose of identifying potential diversity and equity issues that can be addressed by community college programs, following are notable observations of the demographic characteristics for each sector and potentially related labor market information.

White, Male, 50 and older

White males, 50 and older, are the predominant demographic characteristics for the following sectors:

- Advanced Manufacturing
 - This sector also has the 2nd highest entry-level wage of all sectors.
- Business and Entrepreneurship:
 - This sector has the highest number of annual openings of all sectors.
- Energy, Construction, and Utilities
 - This sector has the 4th highest number of annual openings and the 4th highest entry-level wage of all sectors.
 - The Lightcast Automation Index for this sector is 105.3, the 2nd highest of all sectors and indicative of a higher-than-average risk of automation.
- Other

White, Male, 35 to 49 years

White males, 35 to 49 years, are the predominant demographic characteristics for the following sectors:

- Agriculture, Water, and Environmental Technologies
 - Only 1% of 2022 jobs were in this sector, the lowest of all sectors.
 - This sector has the 2nd lowest number of annual openings of all sectors.
- Information and Communication Technologies (ICT)/Digital Media:
 - This sector has the highest hourly wage of all sectors.
 - The Lightcast Automation Index for this sector is 83.3, the lowest of all sectors and indicative of a lower-than-average risk of automation.
- Public Safety

White, Female, 35 to 49 years

White females, 35 to 49 years, are the predominant demographic characteristics for the following sectors:

- Education and Human Development
 - This sector had the 3rd highest number of jobs in 2022.
 - 83% of occupations in this sector are above middle-skill.
 - The Lightcast Automation Index for this sector is 84.8, the 2nd lowest of all sectors and indicative of a lower-than-average risk of automation.

Hispanic or Latino, Male, 50+

Hispanic or Latino males, 50 and older, are the predominant demographic characteristics for the following sectors:

- Advanced Transportation and Logistics
 - This sector has the 2nd lowest entry-level wages of all sectors.
 - The Lightcast Automation Index for this sector is 99.9, the 3rd highest of all sectors and indicative of an average risk of automation.

Hispanic or Latino, Male, 35 to 49 years

Hispanic or Latino males, 35 to 49 years, are the predominant demographic characteristics for the following sectors:

- Retail, Hospitality, and Tourism:
 - This sector is projected to grow 19% through 2027, the highest of all sectors.
 - This sector has the lowest entry-level hourly wage of all sectors.
 - The Lightcast Automation Index for this sector is 105.7, the highest of all sectors and indicative of a higher-than-average risk of automation.
 - This is the only sector that does not have any Resilient Jobs

Asian, Male, 25 to 34 years and 50 and older

Asian males, 25 to 34 years and 50 and older (both groups account for 29% of workers each), are the predominant demographic characteristics for the following sectors:

- Life Sciences and Biotechnology:
 - This sector has the smallest number of occupations and the fewest annual openings of all sectors.

Asian, Female, 50+

Asian females, and 50 and older, respectively are the predominant demographic characteristics for the following sectors:

- Health:
 - This sector has the 2nd highest number of annual openings of all sectors and has the 2nd highest projected 5-year increase in jobs.
 - 52% of the occupations in this sector are considered a U.S. News & World Report Best Job

Sector Supply

In this section, the number of educational awards (degrees and certificates) conferred, otherwise known as supply, at community colleges and non-community college institutions in Orange County is compared to the annual openings (demand) of the 338 occupations analyzed in this report to determine the county's labor gap by sector. Examining supply in relation to demand is crucial to understanding labor gaps and areas of opportunity that can be addressed by educational programs throughout the region. Labor gaps are defined as the difference between demand and supply. The full supply methodology is included in Appendix A, while the TOP codes that correspond to each sector are included in Appendix C.

Among the 12 sectors, **Business and Entrepreneurship** boasts the most substantial gap (22,793), closely trailed by **Health** (19,524), then **Education and Human Development** (9,898). In contrast, **Life Sciences and Biotechnology** has the smallest gap (423), followed by **Agriculture, Water, and Environmental Technologies** (574).

It is noteworthy that three sectors have more community college awards than non-community college awards: **Advanced Transportation and Logistics; Public Safety; and Retail, Hospitality, and Tourism**.

Exhibit 17 shows the breakdown of annual openings compared to supply and resulting labor gap by sector.

Exhibit 17: Annual Opening, Supply, and Labor Gap by Sector

Sector	Annual Openings	Total Supply	CC Awards	Non-CC Awards	Labor Gap
Advanced Manufacturing	2,152	925	261	664	1,227
Advanced Transportation and Logistics	5,527	785	718	67	4,742
Agriculture, Water, and Environmental Technologies	777	203	58	145	574
Business and Entrepreneurship	34,926	12,133	5,164	6,969	22,793
Education and Human Development	12,988	3,090	1,021	2,069	9,898
Energy, Construction, and Utilities	7,832	1,368	522	846	6,464
Health	29,378	9,854	2,127	7,727	19,524
Information and Communication Technologies (ICT)/Digital Media	7,392	3,459	1,290	2,169	3,933
Life Sciences and Biotechnology	711	288	55	233	423
Public Safety	2,604	1,886	1,117	769	718
Retail, Hospitality, and Tourism	6,393	638	580	58	5,755
Other	5,407	3,383	292	3,091	2,024

THE BEST-OF-THE-BEST

There were 26 occupations that received the top score of 8 out of 8 points by meeting all criteria analyzed in this report.

These 26 “Best-of-the-Best” occupations...

- ...only represent 3% of the total number of occupations in the SOC system but accounted for 15% of all jobs in Orange County in 2022;
- ...are projected to comprise 6% of all annual job openings through 2027;
- ...are projected to grow 10% through 2027, which is higher than the projected 6.62% increase across all occupations.

Typical entry-level hourly wages for these Best-of-the-Best occupations are all significantly above both the Insight California Family Needs Calculator living wage of \$20.63 and the MIT Living Wage of \$23.66. They range from \$26.39 for *Market Research Analysts and Marketing Specialists* to \$59.36 for *Physician Assistants*.

The Lightcast Automation Index averages 85.7 for this group of occupations, indicating a lower-than-average risk that these occupations will be automated. Additionally, all 26 of these occupations were resilient during either the Great Recession, COVID-19 Pandemic Recession, or both periods, demonstrating that employment in these jobs is able to withstand economic downturns.

Of the 12 sectors analyzed in this report...

- ...7 have occupations that qualify for the Best-of-the-Best occupations;
- ...the **Health** sector leads with 13, half, of the 26 occupations, followed by **Business & Entrepreneurship** with 5 occupations;
- ...3 sectors include the 6 middle-skill Best-of-the-Best occupations: **Health** (4), **Advanced Transportation & Logistics** (1), and **Business & Entrepreneurship** (1).

Breaking down the data for the Best-of-the-Best Occupations:

- 77% (20) of these Best-of-the-Best occupations are considered above middle-skill, 23% (6) are considered middle-skill, and none are below middle-skill.
- 2 middle-skill occupations have the highest number of annual job openings: *General and Operations Managers* (2,957) and *Registered Nurses* (1,996).
- *General and Operations Managers* has the highest number of annual job openings (2,957) but the lowest projected change in jobs (7%).
- Employment for *Nurse Practitioners* is projected to grow the most (32%); this occupation also has the second highest entry-level wage (\$58.95).
- *Medical and Health Services Managers* has the lowest risk of automation, with a Lightcast Automation Index of 75.2.

Exhibit 18 shows the skill level, number of 2022 jobs, projected five-year percentage change, projected number of annual job openings, typical entry-level hourly wage, Lightcast Automation Index, and sector for each of these 26 Best-of-the-Best occupations.

Exhibit 18: Data for the 26 Best-of-the-Best Occupations

SOC	Occupation	Skill Level	2022 Jobs	5-Year % Change	Annual Openings	Entry-Level Hourly Wage	Automation Index	Sector
11-1021	General and Operations Managers	Middle-Skill	28,261	7%	2,957	\$37.02	82.2	Business & Entrepreneurship
29-1141	Registered Nurses	Middle-Skill	25,617	9%	1,996	\$48.32	85.3	Health
13-1161	Market Research Analysts and Marketing Specialists	Above Middle-Skill	12,149	10%	1,476	\$26.39	88.6	Business & Entrepreneurship
11-3031	Financial Managers	Above Middle-Skill	11,599	7%	1,055	\$53.14	85.8	Business & Entrepreneurship
25-2021	Elementary School Teachers, Except Special Education	Above Middle-Skill	11,508	8%	1,034	\$31.74	82.3	Education & Human Development
23-1011	Lawyers	Above Middle-Skill	12,715	9%	855	\$48.58	81.1	Other
11-9021	Construction Managers	Above Middle-Skill	6,302	8%	601	\$35.84	88.6	Energy, Construction & Utilities
11-9111	Medical and Health Services Managers	Above Middle-Skill	4,314	21%	553	\$40.87	75.2	Health
21-1012	Educational, Guidance, and Career Counselors and Advisors	Above Middle-Skill	3,445	7%	342	\$26.44	80	Education & Human Development
13-1081	Logisticians	Middle-Skill	2,617	14%	316	\$30.26	82.1	Advanced Transportation & Logistics
25-2022	Middle School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	3,376	9%	311	\$36.31	84.5	Education & Human Development
29-1292	Dental Hygienists	Middle-Skill	3,126	13%	296	\$51.60	96.8	Health
11-9151	Social and Community Service Managers	Above Middle-Skill	2,240	14%	269	\$27.08	85.7	Business & Entrepreneurship
15-2051	Data Scientists	Above Middle-Skill	2,151	16%	233	\$34.97	83.4	Information and Communication Technologies (ICT)/Digital Media
29-1171	Nurse Practitioners	Above Middle-Skill	1,696	32%	207	\$58.95	83.2	Health
29-1123	Physical Therapists	Above Middle-Skill	2,741	14%	207	\$45.50	85.5	Health
31-2021	Physical Therapist Assistants	Middle-Skill	932	22%	185	\$32.65	88.1	Health

SOC	Occupation	Skill Level	2022 Jobs	5-Year % Change	Annual Openings	Entry-Level Hourly Wage	Automation Index	Sector
29-1127	Speech-Language Pathologists	Above Middle-Skill	1,659	18%	167	\$39.16	87.5	Health
29-1071	Physician Assistants	Above Middle-Skill	1,502	19%	149	\$59.36	87.8	Health
29-1021	Dentists, General	Above Middle-Skill	3,058	8%	142	\$29.77	87.9	Health
15-1212	Information Security Analysts	Above Middle-Skill	1,181	17%	133	\$45.67	86.4	Information and Communication Technologies (ICT)/Digital Media
29-1122	Occupational Therapists	Above Middle-Skill	1,511	13%	132	\$46.37	87.3	Health
15-2031	Operations Research Analysts	Above Middle-Skill	894	12%	87	\$31.09	91.2	Business & Entrepreneurship
19-3033	Clinical and Counseling Psychologists	Above Middle-Skill	774	21%	87	\$38.24	85.4	Health
29-1041	Optometrists	Above Middle-Skill	1,336	15%	81	\$35.36	83.2	Health
29-2032	Diagnostic Medical Sonographers	Middle-Skill	822	17%	76	\$45.46	93.3	Health

ADVANCED MANUFACTURING



23,991
Jobs in 2022

3%
Projected Growth

2,152
Annual Openings

\$32.44
Entry-Level Hourly Wage

38%
Middle-Skill



62%
Above Middle-Skill

4 of 13
Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

0 of 13
U.S. News & World
Report 2023 Best
Job

90.6
Lightcast's
Automation Index

Did you know:

- Of the 13 occupations, 5 are middle-skill account for 56% of *Advanced Manufacturing* sector's annual job openings
- *Advanced Manufacturing* is projected to have the smallest percentage increase in employment
- White males, 50 and older, are the predominant demographic characteristics for this sector

Advanced Manufacturing Occupational Criteria Data

The **Advanced Manufacturing** occupational sector includes a variety of assembly and production, technician and engineering, and industrial maintenance roles. Workers in these occupations often work in factories and other manufacturing facilities. **Advanced Manufacturing** may also involve the use of machinery such as computer numerically controlled (CNC) machines and computer aided design (CAD) or 3D printing machines. **Advanced Manufacturing** workers also deal with robotics, control systems, electro-mechanical technology, and other autonomous systems.

Below are notable data points for the **Advanced Manufacturing** sector.

- Of the 13 occupations, 8 are above middle-skill, 5 are middle-skill and none are below-middle skill.
 - Despite the smaller number of occupations, middle-skill occupations account for 56% of the annual job openings.
- The annual openings criterion is met by 10 of the 13 occupations.
- None of the occupations are considered a U.S. News & World 2023 Best Job.
- *Engineering Technologists and Technicians, Except Drafters, All Other (SOC 17-3029)* is the only occupation that does not meet both the California Insight Living Wage and the MIT Living Wage.
- Only one occupation, *Industrial Machinery Mechanics*, has a higher-than-average risk of automation.
- *Chemical Engineers (SOC 17-2041)*, the occupation that will grow the most over the next five years, is also one of the three occupations with the least number of annual openings.
- Advanced Manufacturing occupations analyzed in this sector make up 2% of all annual openings analyzed in this report and 2.5% of all jobs in 2022 within Orange County.

Exhibit 19 shows the 13 occupations analyzed in the **Advanced Manufacturing** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 19: Advanced Manufacturing Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 – 2027 % Change	Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
17-2112	Industrial Engineers	Above Middle-Skill	7	3,205	8%	255	\$40.38	1	0	92
51-1011	First-Line Supervisors of Production and Operating Workers	Middle-Skill	6	5,682	0%	601	\$24.41	1	0	88.6
49-9041	Industrial Machinery Mechanics	Middle-Skill	6	2,481	7%	260	\$24.22	1	0	109.8
17-2071	Electrical Engineers	Above Middle-Skill	6	3,151	2%	208	\$45.85	1	0	84.8
17-2141	Mechanical Engineers	Above Middle-Skill	5	3,119	2%	205	\$39.35	0	0	83.4
17-3023	Electrical and Electronic Engineering Technologists and Technicians	Middle-Skill	5	1,689	(1%)	181	\$28.70	0	0	98.6
19-5011	Occupational Health and Safety Specialists	Above Middle-Skill	5	1,052	5%	121	\$35.13	0	0	92.5
17-2061	Computer Hardware Engineers	Above Middle-Skill	5	1,170	1%	76	\$27.27	0	0	83.1
27-1021	Commercial and Industrial Designers	Above Middle-Skill	5	840	0%	74	\$28.63	0	0	81.3
17-3029	Engineering Technologists and Technicians, Except Drafters, All Other	Middle-Skill	4	1,086	3%	114	\$23.37	0	0	92.1
17-3026	Industrial Engineering Technologists and Technicians	Middle-Skill	4	380	9%	45	\$28.60	0	0	94
17-2041	Chemical Engineers	Above Middle-Skill	4	88	10%	7	\$41.35	0	0	91.7
19-2032	Materials Scientists	Above Middle-Skill	4	48	8%	5	\$31.72	0	0	74.2
Total			-	23,991	3%	2,152	\$32.44	-	-	-

Advanced Manufacturing Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the Advanced Manufacturing sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following are the most significant demographic findings for this sector:

- Notably, there is a higher percentage of white workers in above middle-skill occupations when compared to other groups. Conversely, there is a higher percentage of Hispanic workers in middle-skill occupations.
- This sector has the second-highest percentage (41%) of 50 and older workers when compared to all sectors. Conversely, 74% of community college students are 34 or less.
- At least 65% of workers in occupations that represent the **Advanced Manufacturing** sector are men.

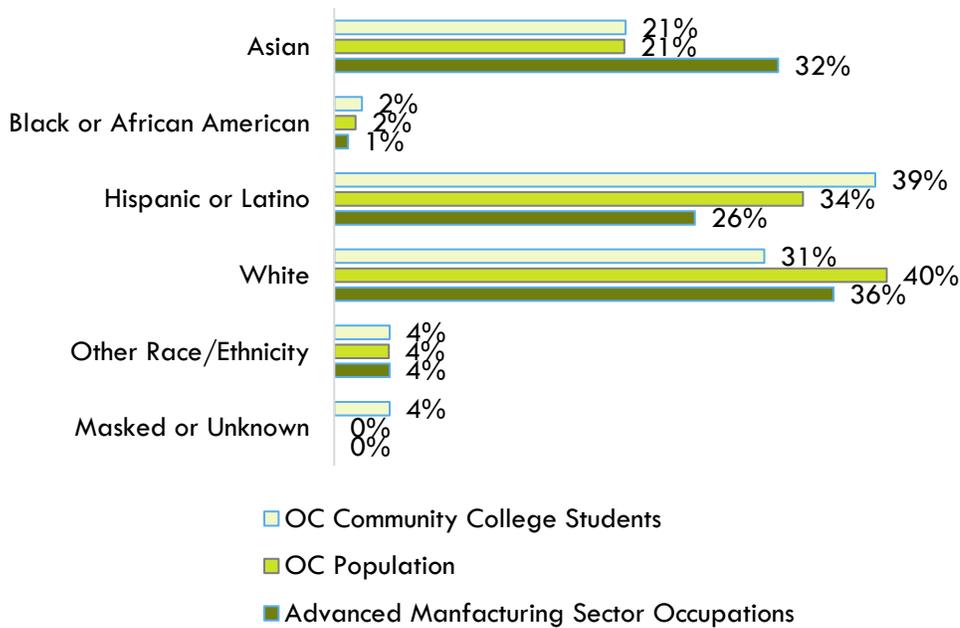
Ethnicity

Following are notable observations of the **Advanced Manufacturing** sector by ethnicity:

- 36% of workers employed in the sector are white, which is below the population (40%) but higher than community college Advanced Manufacturing students (31%).
- 39% of community college students are Hispanic or Latino, which is higher than the Orange County population (34%) and higher than workers in this sector (26%).
- Asian workers hold 32% of jobs in this sector, but just 21% of the population in Orange County.
- Asian workers occupy more than half of the jobs in 3 occupations, all of which are above middle-skill.
- Although white workers occupy just 36% of jobs in the advanced manufacturing sector, they occupy more than half of the jobs in 3 occupations, all of which are above middle-skill.
- Occupational Health and Safety Specialists (19-5011) is the only above middle-skill occupation in the Advanced Manufacturing sector where Hispanic workers make up the majority.

Exhibit 20 shows the breakdown of ethnicity in the **Advanced Manufacturing** sector.

Exhibit 20: Advanced Manufacturing Demographics by Ethnicity



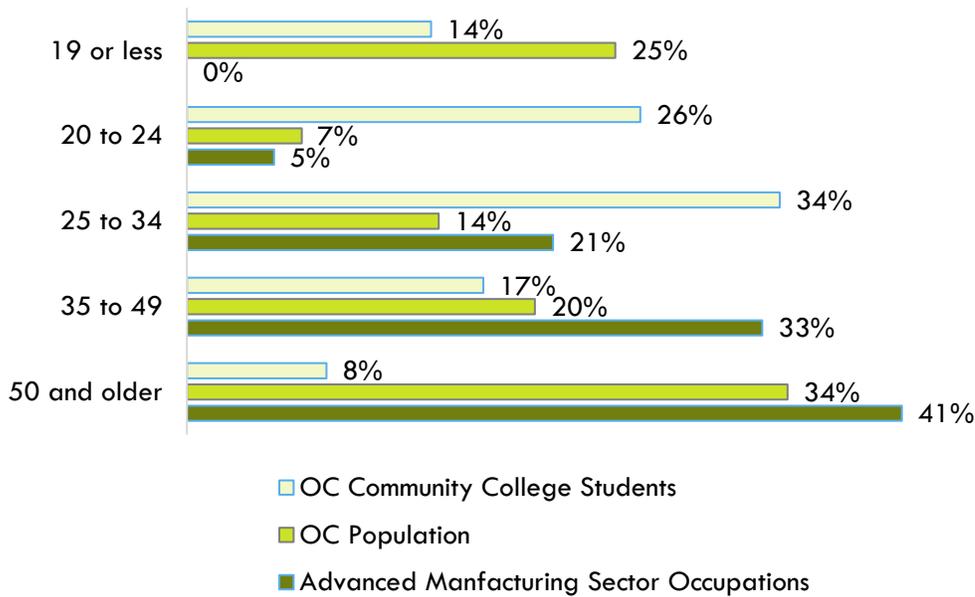
Age Group

Following are notable observations of the **Advanced Manufacturing** sector by age:

- 41% of workers in this sector are 50 and older, followed by 33% who are 35 to 49 years, which is higher than the combined population (54%) and community college students (25%).
 - This sector has the second-highest percentage of 50 and older workers when compared to all sectors.
- There are more community college students (34%) in the 25-34 age group than in the occupations analyzed in this sector (21%) and overall population in Orange County (14%).
- Advanced Manufacturing skews older – one of three sectors with more than 40% of workers aged 50 and older.
- Chemical Engineers (17-2041) is the only occupation out of 13 that is mostly made up of 25 to 49 year old workers.
- Of the 13 occupations, 12 are mostly made up of workers 50 or older.

Exhibit 21 shows the breakdown of age in the **Advanced Manufacturing** sector.

Exhibit 21: Advanced Manufacturing Demographics by Age



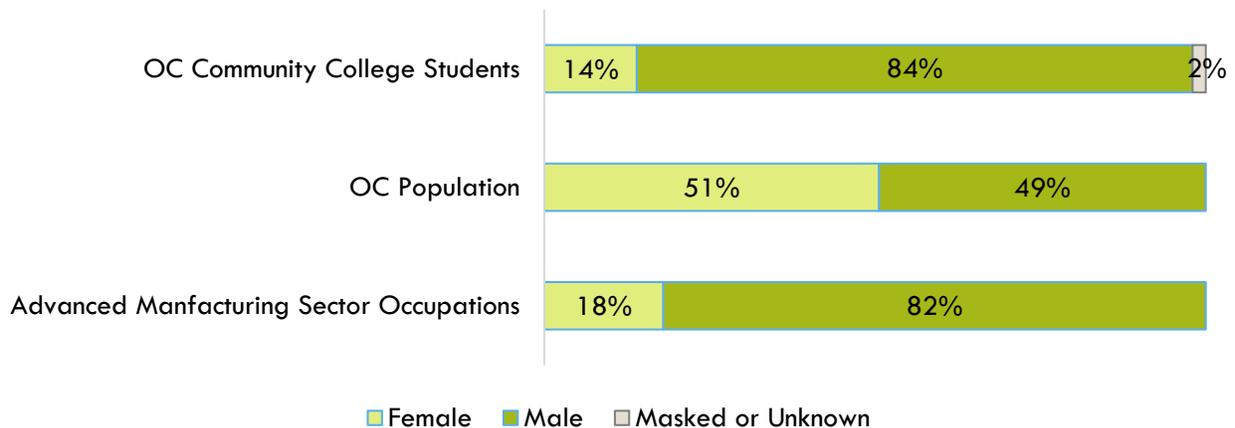
Sex

Following are notable observations of the **Advanced Manufacturing** sector by sex:

- Though the Orange County population is split nearly evenly between male and female workers, 82% of workers in the Advanced Manufacturing sector are men. Similarly, 84% of community college students are men.
- Male workers make up the majority, a minimum of 65%, in all 13 occupations.
- *Computer Hardware Engineers* (SOC 17-2061) (99%), *Industrial Machinery Mechanics* (SOC 49-9041) (98%), and *Mechanical Engineers* (SOC 17-2141) (95%) are the three occupations with the largest male worker representation.
- Of the 13 occupations, *Commercial and Industrial Designers* (SOC 27-1021) is the occupation with the highest percentage of female workers – and even then, it is low (35%).

Exhibit 22 shows the breakdown of sex in the **Advanced Manufacturing** sector.

Exhibit 22: Advanced Manufacturing Demographics by Sex



ADVANCED TRANSPORTATION AND LOGISTICS

338
Total
Occupations

19 (6%)

DEMAND
5,527
Annual Openings

SUPPLY
785
Awards Conferred

LABOR GAP
4,742

44,108
Jobs in 2022

6%
Projected Growth

74%
Middle-Skill

21%
Below
Middle-Skill

5,527
Annual Openings

\$23.15
Entry-Level Hourly Wage

Skill-Level

5%
Above
Middle-Skill

4 of 19

Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

3 of 19

U.S. News & World
Report 2023 Best
Job

99.9

Lightcast's
Automation Index

Did you know:

- **Advanced Transportation and Logistics' middle-skill occupations accounted for 64% of the 2022 jobs and 60% of the average annual job openings in Orange County**
- **Logisticians (SOC 13-1081), a middle-skill occupation, is the only occupation that meets all the 8 criteria in this sector**
- **Hispanic or Latino males, 50 and older, are the predominant**

Advanced Transportation and Logistics Occupational Criteria Data

The **Advanced Transportation and Logistics** occupational sector includes a variety of roles ranging from automotive and avionics technicians, drivers and pilots, and warehousing and distribution workers. Workers in these occupations often work in a variety of facilities including automotive repair shops and dealerships, airports, warehouses, distribution centers, logistics centers, and more. **Advanced Transportation and Logistics** workers may also work with alternative fuels such as electric and hybrid vehicles.

Below are notable data points for the **Advanced Transportation and Logistics** sector.

- Of the 19 occupations, 1 (5%) is above middle-skill, 14 (74%) are middle-skill, and 4 (21%) are below middle-skill.
- Middle-skill occupations accounted for 64% of the 2022 jobs and 60% of the average annual job openings.
- 84% (16) of occupations met the annual openings criteria; 12 of which are middle-skill.
- The 3 occupations that are listed on the U.S. News & World Report 2023 Best Job's List make up 34% of this sector's annual openings.
- 11 occupations meet both California Insight's Living Wage and the MIT Living Wage; however, 4 occupations only met California Insight's Living Wage.
- 10 of the 11 occupations that meet both the California Insight's Living Wage and the MIT Living Wage are middle-skill occupations.
- *Light Truck Drivers* (SOC 53-3033), which has the most annual openings (1,471), is below middle-skill and does not meet either livable wage metric.
- *Logisticians* (SOC 13-1081), a middle-skill occupation, is the only occupation that meets all the criteria.

Exhibit 23 shows the 19 occupations analyzed in the **Advanced Transportation and Logistics** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 23: Advanced Transportation and Logistics Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
13-1081	Logisticians	Middle-Skill	8	2,617	14%	316	\$30.26	1	1	82.1
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	Middle-Skill	6	4,163	6%	445	\$30.98	1	0	94
11-3071	Transportation, Storage, and Distribution Managers	Middle-Skill	6	2,697	3%	239	\$35.45	1	0	88.2
53-2012	Commercial Pilots	Middle-Skill	6	418	12%	65	\$39.15	0	1	89.6
53-1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	Middle-Skill	5	5,457	4%	704	\$22.94	1	0	93.8
53-3051	Bus Drivers, School	Below Middle-Skill	5	982	14%	189	\$23.46	0	0	99.9
53-3033	Light Truck Drivers	Below Middle-Skill	4	10,758	8%	1,471	\$18.08	0	1	112.9
43-5061	Production, Planning, and Expediting Clerks	Middle-Skill	4	6,522	2%	754	\$20.99	0	0	94
53-3053	Shuttle Drivers and Chauffeurs	Below Middle-Skill	4	1,512	19%	278	\$15.36	0	0	99.9
53-3054	Taxi Drivers	Below Middle-Skill	4	2,079	8%	266	\$8.11	0	0	99.9
53-3052	Bus Drivers, Transit and Intercity	Middle-Skill	4	1,271	4%	182	\$21.16	0	0	98
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	Middle-Skill	4	1,527	3%	152	\$24.79	0	0	114.6
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	Middle-Skill	4	1,045	6%	114	\$26.69	0	0	109.6
53-7021	Crane and Tower Operators	Middle-Skill	4	944	2%	104	\$27.80	0	0	121.5
43-5011	Cargo and Freight Agents	Middle-Skill	4	731	10%	101	\$16.97	0	0	90.8
49-3011	Aircraft Mechanics and Service Technicians	Middle-Skill	4	908	3%	78	\$27.63	0	0	101.2
53-2011	Airline Pilots, Copilots, and Flight Engineers	Above Middle-Skill	4	425	7%	61	\$54.92	0	0	91.5
53-1041	Aircraft Cargo Handling Supervisors	Middle-Skill	4	32	10%	5	\$25.73	0	0	81.6
53-4041	Subway and Streetcar Operators	Middle-Skill	4	20	11%	3	\$29.83	0	0	96.1
Total			-	44,108	6%	5,527	\$23.15	-	-	-

Advanced Transportation and Logistics Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Advanced Transportation and Logistics** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following are the most significant demographic findings for this sector:

- This sector has the second-highest percentage (46%) of Hispanic or Latino workers when compared to all sectors.
- This sector has the second-highest percentage (85%) of male workers when compared to all sectors.
- The ethnic makeup of workers and community college students is relatively aligned, only deviating by 2-5%. Similarly, 85% of workers and community college students are men.

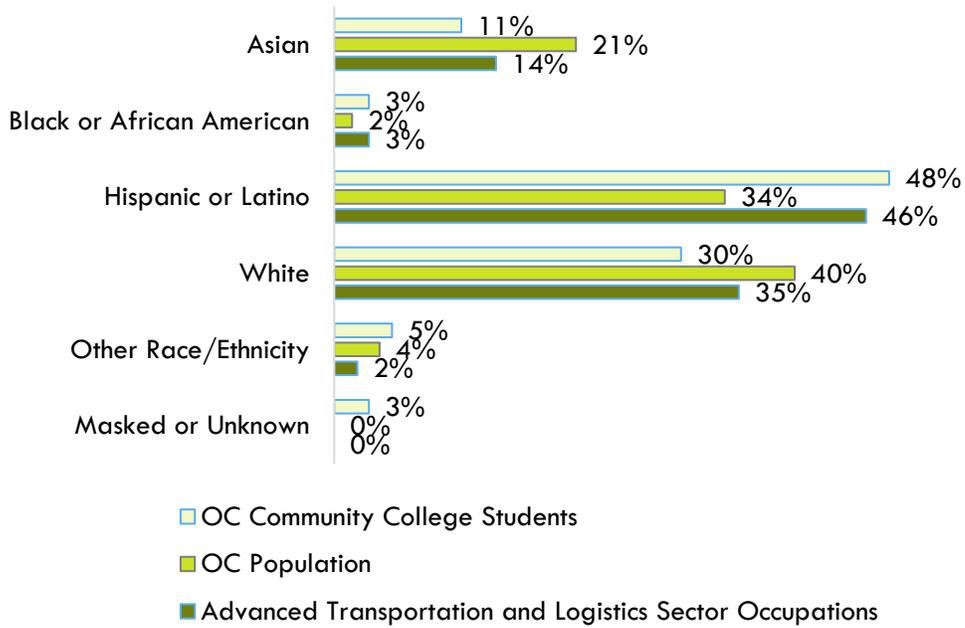
Ethnicity

Following are notable observations of the **Advanced Transportation and Logistics** sector by ethnicity:

- The plurality of workers are Hispanic or Latino (46%), followed by white workers (35%).
- 46% of workers employed in this sector are Hispanic or Latino, which is higher than the population (34%) but below community college students (48%).
- 35% of workers employed in this sector are white, which is below the population (40%) but higher than community college students (30%).
- White workers represent the majority (73%) of *Commercial Pilots*, the sole above middle-skill **Advanced Transportation and Logistics** occupation.
- 80% of *Cargo and Freight Agents* are Asian.
 - Asian workers account for less than 40% of workers in every other occupation.
- 47% *Subway and Streetcar Operators* are Black or African American
 - Black or African American workers account for less than 20% of workers in all other occupations.

Exhibit 24 shows the breakdown of ethnicity in the *Advanced Transportation and Logistics* sector.

Exhibit 24: Advanced Transportation and Logistics Demographics by Ethnicity



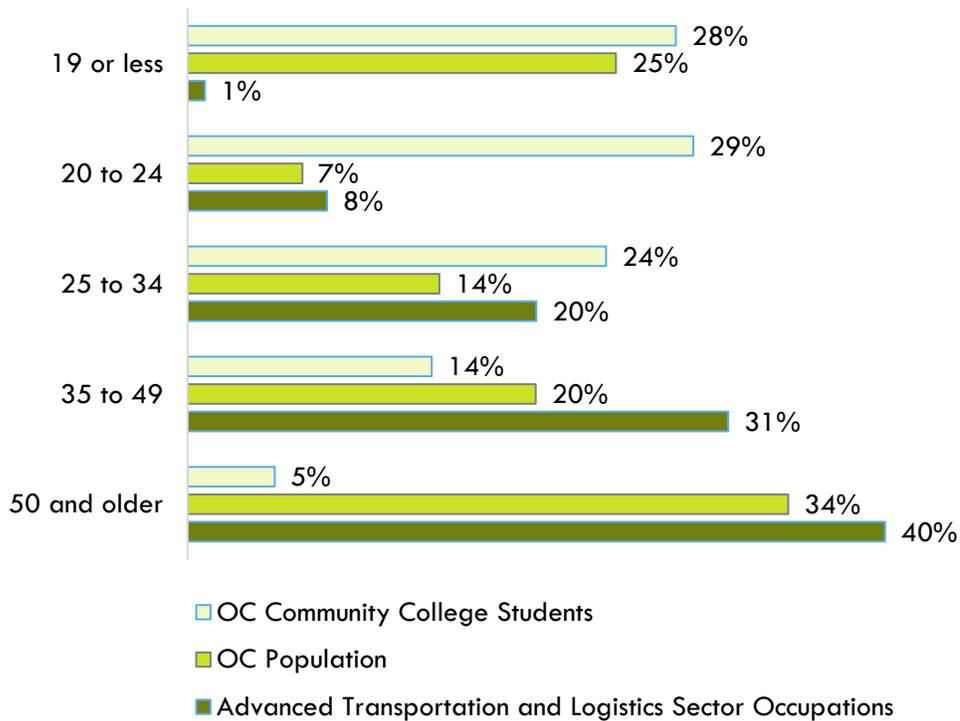
Age Group

Following are notable observations of the **Advanced Transportation and Logistics** sector by age:

- 71% of workers in this sector are 35 to 49 years old (31%) or 50 and older (40%), which is higher than the combined population (54%) and community college students (19%).
- The 50 and over age group comprises the majority of jobs for 5 occupations, more than any other age group for all occupations.
- There are significantly more community college students (29%) in the 20-24 age group than in the occupations analyzed in this sector (8%) and overall population in Orange County (7%).

Exhibit 25 shows the breakdown of age in the **Advanced Transportation and Logistics** sector.

Exhibit 25: Advanced Transportation and Logistics Demographics by Age



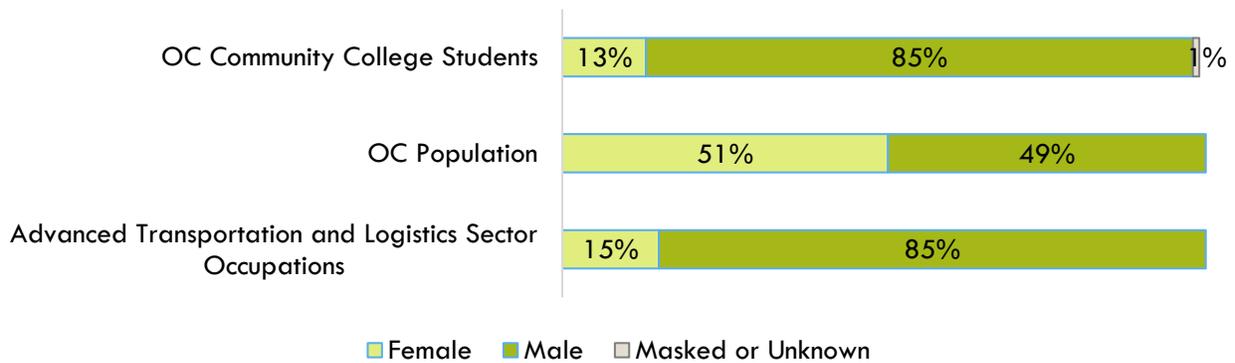
Sex

Following are notable observations of the **Advanced Transportation and Logistics** sector by sex:

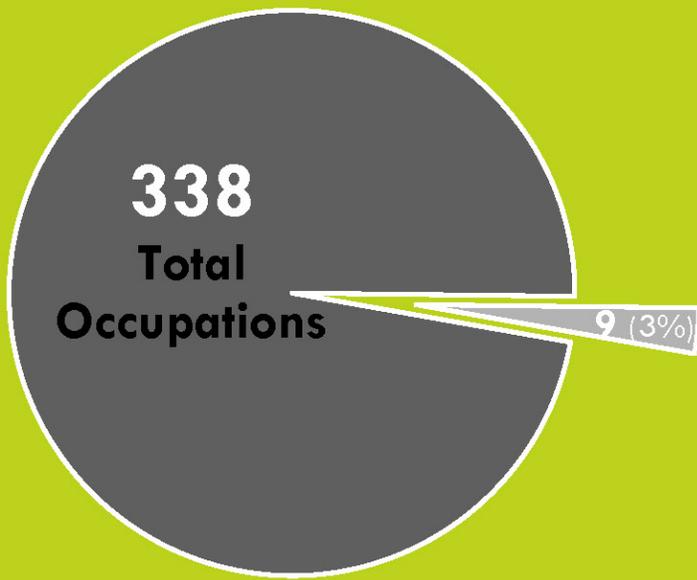
- Though the Orange County population is split nearly evenly between male and female workers, 85% of workers and 85% of community college students in this sector are men.
- Men hold more than 90% of jobs in 8 occupations, dominating all occupations except *Production, Planning, and Expediting Clerks*, which is split evenly between male and female workers.

Exhibit 26 shows the breakdown of sex in the **Advanced Transportation and Logistics** sector.

Exhibit 26: Advanced Transportation and Logistics Demographics by Sex



AGRICULTURE, WATER, AND ENVIRONMENTAL TECHNOLOGIES



5,675
Jobs in 2022

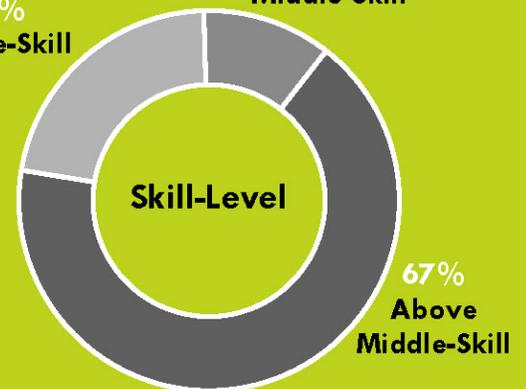
9%
Projected Growth

777
Annual Openings

\$25.11
Entry-Level Hourly Wage

22%
Middle-Skill

11%
Below
Middle-Skill



2 of 9
Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

3 of 9
U.S. News & World
Report 2023 Best
Job

93.6
Lightcast's
Automation Index

Did you know:

- **60%** of the annual jobs are comprised by the sector's 2 middle-skill occupations
- The only occupation, *Tree Trimmers and Pruners (SOC 37-3013)*, that will see a decline over the next five years also has **19%** of the total job openings and is the occupation at highest risk of automation.
- White workers make up the majority in 8 of the 9 occupations, all of which are middle to above middle-skill; Hispanic or Latinos workers in

Agriculture, Water, and Environmental Technologies Occupational Criteria Data

The **Agriculture, Water and Environmental Technologies** occupational sector includes a variety of roles ranging from animal scientists and veterinarians, farmworkers and food science technicians, and agricultural and environmental engineers. Workers in these occupations may work with technology to create sustainable agricultural and water conservation methods and work in a variety of settings including farms, ranches, orchards, or veterinary facilities.

Below are notable data points for the **Agriculture, Water and Environmental Technologies** sector.

- Of the 9 occupations, 6 are above middle-skill, 2 are middle-skill, and 1 is below middle-skill.
- 60% of the annual jobs are comprised by the 2 middle-skill occupations.
- 2 of the 4 occupations that meet the annual openings criteria are middle-skilled.
- 35% of all annual openings in this sector are comprised of the 3 occupations listed as U.S. News & World 2023 Best Jobs
- 6 out of 9 occupations meet both the California Insight's Living Wage and the MIT Living Wage
- The only occupation, *Tree Trimmers and Pruners* (SOC 37-3013), that will see a decline over the next five years also has 19% of the total job openings and is the occupation at highest risk of automation.

Exhibit 27 shows the 9 occupations analyzed in the **Agriculture, Water, and Environmental Technologies** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 27: Agriculture, Water, and Environmental Technologies Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
17-2081	Environmental Engineers	Above Middle-Skill	7	973	5%	81	\$37.52	1	1	76.6
29-1131	Veterinarians	Above Middle-Skill	6	923	12%	54	\$35.67	0	1	83.1
29-2056	Veterinary Technologists and Technicians	Middle-Skill	5	985	16%	134	\$17.79	0	1	90.7
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	Middle-Skill	4	1,490	11%	333	\$16.91	0	0	93.8
37-3013	Tree Trimmers and Pruners	Below Middle-Skill	4	1,083	(1%)	148	\$22.62	1	0	122.8
19-1013	Soil and Plant Scientists	Above Middle-Skill	4	75	13%	10	\$25.55	0	0	78.2
19-1023	Zoologists and Wildlife Biologists	Above Middle-Skill	4	73	9%	8	\$27.49	0	0	79
25-9021	Farm and Home Management Educators	Above Middle-Skill	4	50	14%	6	\$24.57	0	0	90
19-1011	Animal Scientists	Above Middle-Skill	4	23	10%	3	\$31.66	0	0	73.3
Total			-	5,675	9%	777	\$25.11	-	-	-

Agriculture, Water, and Environmental Technologies Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Agriculture, Water, and Environmental Technologies** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following are the most significant demographic findings for this sector:

- Generally, the distribution of ethnicity and sex across OC Community College Students, OC's Population, and workers in the **Agriculture, Water, and Environmental Technologies** sector are relatively in line with one another.

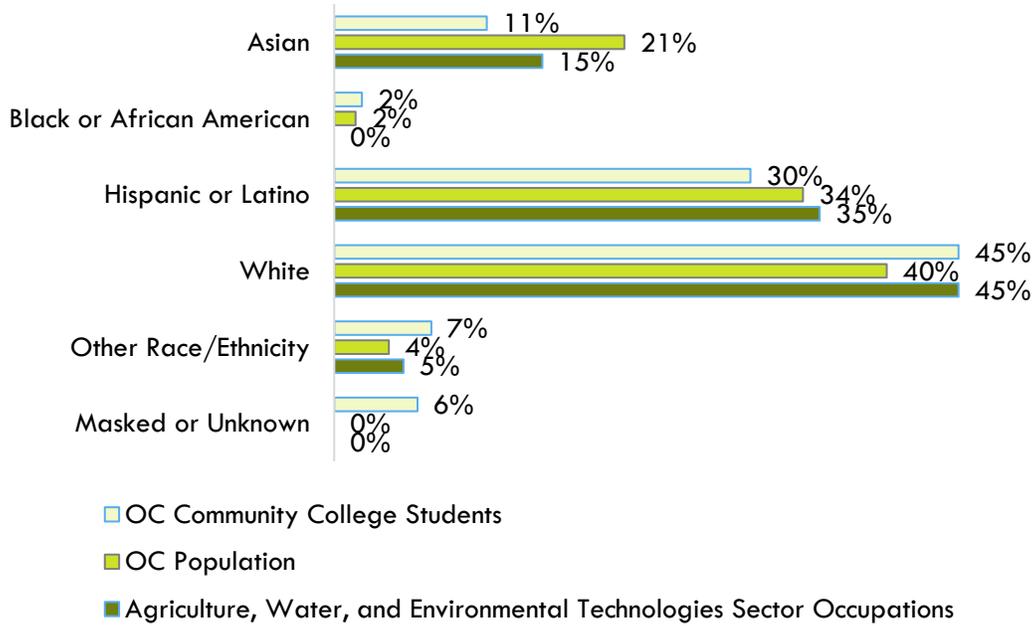
Ethnicity

Following are notable observations of the **Agriculture, Water, and Environmental Technologies** sector by ethnicity:

- The majority of workers are white (45%), followed by Hispanic or Latino workers (35%).
- 45% of community college students are white, which is equal to workers in these occupations (45%) and slightly higher than the Orange County population (40%).
- There is a higher percentage of Hispanic or Latino and Asian workers in the sector (50%) than students in community college programs (41%) – a deviation of 9%.
- White workers make up the majority in 8 occupations, all of which are middle to above middle-skill; Hispanic or Latinos workers in one.
- Hispanic or Latino workers make up the majority in the only below middle-skill occupation (77%) - *Veterinary Assistants and Laboratory Animal Caretakers* (SOC 31-9096).

Exhibit 28 shows the breakdown of ethnicity in the **Agriculture, Water, and Environmental Technologies** sector.

Exhibit 28: Agriculture, Water, and Environmental Technologies Demographics by Ethnicity



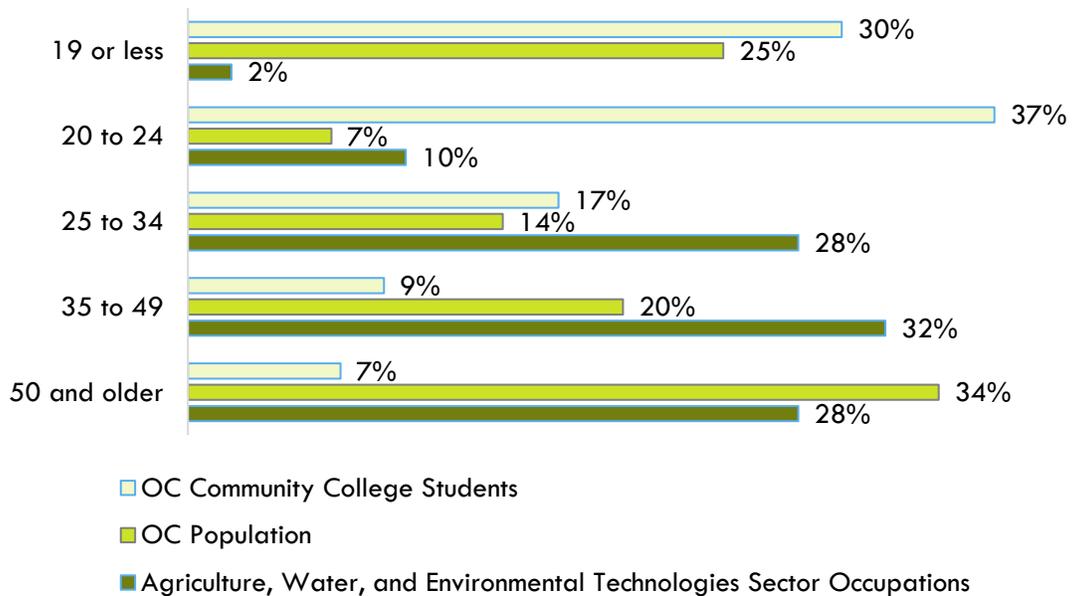
Age Group

Following are notable observations of the **Agriculture, Water, and Environmental Technologies** sector by age:

- The majority of workers are age 35 to 49 (32%), which is higher than the OC population (20%) and significantly higher than community college students (9%).
- Only 12% of workers are 24 or less, which is lower than the population (32%), and community college students (67%).
- Workers 40 and above make up the majority in all above middle-skill level occupations.

Exhibit 29 shows the breakdown of age in the **Agriculture, Water, and Environmental Technologies** sector.

Exhibit 29: Agriculture, Water, and Environmental Technologies Demographics by Age



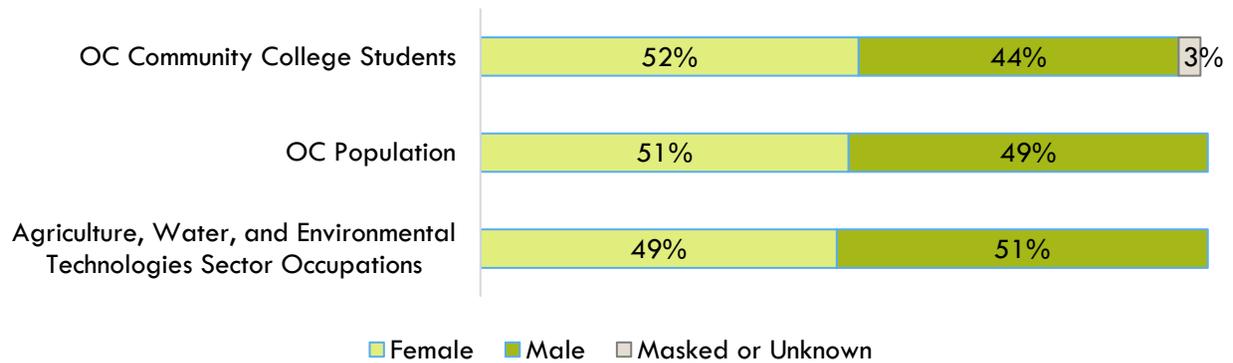
Sex

Following are notable observations of the **Agriculture, Water, and Environmental Technologies** sector by sex:

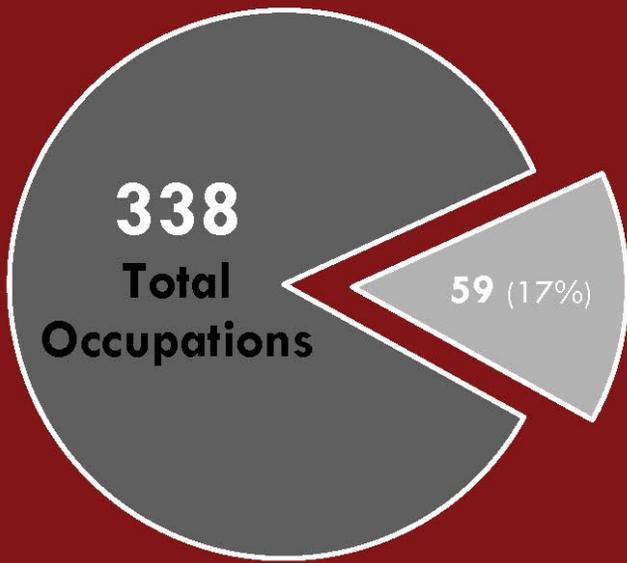
- **Agriculture, Water, and Environmental Technologies** occupations are split relatively evenly between female (49%) and male (51%) workers.
- Female students make up the slight majority of agriculture community college students (52%).
- Female workers make up the majority in five occupations, all of which are middle and above middle-skill occupations.

Exhibit 30 shows the breakdown of sex in the **Agriculture, Water, and Environmental Technologies** sector.

Exhibit 30: Agriculture, Water, and Environmental Technologies Demographics by Sex



BUSINESS AND ENTREPRENEURSHIP



336,540
Jobs in 2022

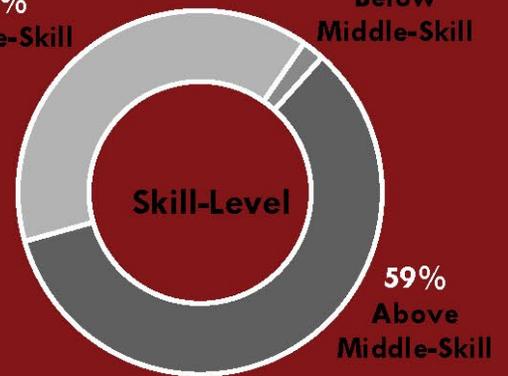
4%
Projected Growth

39%
Middle-Skill

2%
Below Middle-Skill

34,926
Annual Openings

\$29.48
Entry-Level Hourly Wage



23 of 59
Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

17 of 59
U.S. News & World
Report 2023 Best
Job

89.2
Lightcast's
Automation Index

Did you know:

- *Business and Entrepreneurship* accounted for 34% of all Orange County jobs in 2022
- *Business and Entrepreneurship* sector has the second highest number of above middle-skill occupations analyzed
- White males, 50 and older, are the predominant demographic characteristics for this sector

Business and Entrepreneurship Occupational Criteria Data

The **Business and Entrepreneurship** occupational sector includes a variety of accounting, human resources, management, marketing, real estate, sales, secretarial, and other roles. This sector also includes occupations with a high number of self-employed workers such as those in the beauty industry. Workers in these occupations often work in banks, marketing and public relations agencies, tax preparation facilities, and other offices. Business and Entrepreneurship occupations may also require the use of office technology, including word processing, presentation, and spreadsheet software.

Below are notable data points for the **Business and Entrepreneurship** sector.

- Of the 59 occupations, 35 are above middle-skill, 23 are middle-skill, and 1 is below middle-skill.
- 50 of the 59 occupations meet the annual openings criteria – 29 middle-skill and 20 middle-skill.
- Nearly half of all annual openings in the sector are for these 29 above middle-skill occupations.
- **Business and Entrepreneurship** sector has the second highest number of above middle-skill occupations analyzed in this report.
- 17 occupations are listed as a U.S. News & World Report 2023 Best Job – 15 of which are above middle-skill.
- 47 occupations meet both the California Insight's Living Wage and the MIT Living Wage while eight do not meet the MIT living wage.
- *Funeral Home Managers (SOC 11-9171)* will grow the most (22%) over the next five years yet is also one of two occupations with the fewest annual openings (7).
- 4 above middle-skill occupations and one middle-skill occupation, *General and Operations Managers (11-1021)*, meet all criteria –.
- Sector with the most occupations (23) meeting the Great Recession, COVID-19 Pandemic, or Overall Resilient criteria...97 occupations out of 338 met this criterion. $23/97 =$ nearly one-fourth (24%) are in Business and Entrepreneurship sector.
- *General and Operations Managers* is also in the top three occupations with the most annual openings of the 338 occupations analyzed in this report. Of the 26 occupations that met all 8 points, this occupation is at the very top (#1).

Exhibit 31 shows the 59 occupations analyzed in the **Business and Entrepreneurship** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 31: Business and Entrepreneurship Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
11-1021	General and Operations Managers	Middle-Skill	8	28,261	7%	2,957	\$37.02	1	1	82.2
13-1161	Market Research Analysts and Marketing Specialists	Above Middle-Skill	8	12,149	10%	1,476	\$26.39	1	1	88.6
11-3031	Financial Managers	Above Middle-Skill	8	11,599	7%	1,055	\$53.14	1	1	85.8
11-9151	Social and Community Service Managers	Above Middle-Skill	8	2,240	14%	269	\$27.08	1	1	85.7
15-2031	Operations Research Analysts	Above Middle-Skill	8	894	12%	87	\$31.09	1	1	91.2
13-1111	Management Analysts	Above Middle-Skill	7	14,021	6%	1,486	\$27.74	1	1	91.1
13-1071	Human Resources Specialists	Above Middle-Skill	7	9,849	6%	1,077	\$27.00	1	1	83.8
11-2022	Sales Managers	Above Middle-Skill	7	10,950	0%	900	\$37.29	1	1	85.7
13-2052	Personal Financial Advisors	Above Middle-Skill	7	5,371	4%	431	\$30.56	1	1	89.4
13-2011	Accountants and Auditors	Above Middle-Skill	6	19,015	5%	1,852	\$30.06	0	1	93.1
11-9199	Managers, All Other	Above Middle-Skill	6	15,499	4%	1,353	\$28.78	1	0	84.5
13-1082	Project Management Specialists	Above Middle-Skill	6	11,651	5%	1,078	\$35.83	1	0	86.8
11-2021	Marketing Managers	Above Middle-Skill	6	6,223	3%	588	\$53.78	0	1	76.7
13-1028	Buyers and Purchasing Agents	Middle-Skill	6	5,762	(4%)	569	\$27.46	1	0	93.4
11-3012	Administrative Services Managers	Middle-Skill	6	3,784	4%	352	\$40.26	1	0	81
11-1011	Chief Executives	Above Middle-Skill	6	4,556	(2%)	337	\$50.31	1	0	82
13-1051	Cost Estimators	Middle-Skill	6	3,362	1%	317	\$29.73	1	0	96.5
13-2051	Financial and Investment Analysts	Above Middle-Skill	6	3,484	4%	285	\$35.44	0	1	89
27-3031	Public Relations Specialists	Above Middle-Skill	6	2,777	6%	281	\$25.27	0	1	90
11-3121	Human Resources Managers	Above Middle-Skill	6	2,571	4%	240	\$49.21	1	0	84
11-3051	Industrial Production Managers	Above Middle-Skill	6	2,682	(1%)	191	\$40.71	1	0	80.9
11-3013	Facilities Managers	Middle-Skill	6	1,635	6%	157	\$36.09	1	0	81
13-2099	Financial Specialists, All Other	Above Middle-Skill	6	1,709	5%	154	\$24.97	1	0	89

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
13-2028	Property Appraisers and Assessors	Middle-Skill	6	1,014	(1%)	91	\$25.85	1	0	89.4
13-1131	Fundraisers	Above Middle-Skill	6	703	13%	86	\$24.70	0	0	85.8
13-2061	Financial Examiners	Above Middle-Skill	6	625	10%	65	\$29.88	0	0	89.8
43-1011	First-Line Supervisors of Office and Administrative Support Workers	Middle-Skill	5	17,341	1%	1,936	\$27.24	0	0	91.8
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	Middle-Skill	5	18,535	(4%)	1,822	\$23.72	0	0	91.5
13-1199	Business Operations Specialists, All Other	Above Middle-Skill	5	16,507	5%	1,719	\$23.12	1	0	86.8
41-3021	Insurance Sales Agents	Middle-Skill	5	9,804	0%	944	\$23.03	1	0	96
43-6011	Executive Secretaries and Executive Administrative Assistants	Middle-Skill	5	6,309	(7%)	706	\$26.85	0	0	92.4
13-2072	Loan Officers	Above Middle-Skill	5	7,052	(3%)	541	\$21.02	0	1	91.7
41-9021	Real Estate Brokers	Middle-Skill	5	3,708	5%	382	\$26.13	0	0	99.2
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Above Middle-Skill	5	3,708	(1%)	374	\$35.74	0	0	93.5
41-1012	First-Line Supervisors of Non-Retail Sales Workers	Middle-Skill	5	3,726	(5%)	335	\$24.45	0	0	81.4
13-1031	Claims Adjusters, Examiners, and Investigators	Middle-Skill	5	2,906	(13%)	218	\$29.02	0	0	89.4
13-1141	Compensation, Benefits, and Job Analysis Specialists	Above Middle-Skill	5	1,143	3%	105	\$28.22	0	0	86.4
13-2041	Credit Analysts	Above Middle-Skill	5	1,265	(2%)	101	\$30.09	0	0	92.2
41-9031	Sales Engineers	Above Middle-Skill	5	929	(2%)	96	\$38.77	0	0	85.4
13-2053	Insurance Underwriters	Above Middle-Skill	5	1,217	(12%)	86	\$34.61	0	0	95
11-3061	Purchasing Managers	Above Middle-Skill	5	902	2%	79	\$51.48	0	0	88.7
43-4171	Receptionists and Information Clerks	Middle-Skill	4	9,023	10%	1,474	\$16.45	0	0	94.2

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Below Middle-Skill	4	12,116	3%	1,398	\$22.20	0	0	96.7
39-5012	Hairdressers, Hairstylists, and Cosmetologists	Middle-Skill	4	6,988	14%	1,232	\$13.66	0	0	98
39-5092	Manicurists and Pedicurists	Middle-Skill	4	6,652	21%	1,204	\$14.00	0	1	102.2
41-3031	Securities, Commodities, and Financial Services Sales Agents	Above Middle-Skill	4	7,894	2%	707	\$23.06	0	0	92.8
11-9141	Property, Real Estate, and Community Association Managers	Middle-Skill	4	8,008	1%	691	\$21.43	0	0	83.8
39-5094	Skincare Specialists	Middle-Skill	4	1,911	19%	362	\$14.13	0	0	93.7
43-3051	Payroll and Timekeeping Clerks	Middle-Skill	4	2,731	(5%)	298	\$21.54	1	0	101.1
43-4011	Brokerage Clerks	Middle-Skill	4	600	(3%)	69	\$21.90	0	0	98
11-2032	Public Relations Managers	Above Middle-Skill	4	660	6%	62	\$46.91	0	0	85.1
23-2093	Title Examiners, Abstractors, and Searchers	Middle-Skill	4	633	0%	62	\$24.63	0	0	87.3
11-3131	Training and Development Managers	Above Middle-Skill	4	585	4%	57	\$45.38	0	0	84.3
13-2054	Financial Risk Specialists	Above Middle-Skill	4	623	3%	54	\$36.56	0	0	89
39-5091	Makeup Artists, Theatrical and Performance	Middle-Skill	4	166	12%	30	\$41.35	0	0	97.5
11-2033	Fundraising Managers	Above Middle-Skill	4	216	11%	23	\$39.20	0	0	85.1
15-2011	Actuaries	Above Middle-Skill	4	179	4%	12	\$45.62	0	1	75
11-9171	Funeral Home Managers	Middle-Skill	4	51	22%	7	\$24.29	0	0	83.9
19-3032	Industrial-Organizational Psychologists	Above Middle-Skill	4	66	6%	6	\$35.91	0	1	87
Total			-	336,540	4%	34,926	\$29.48	-	-	-

Business and Entrepreneurship Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Business and Entrepreneurship** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- White males, 50 and older, are the predominant demographic characteristics of those working in the **Business and Entrepreneurship** sector.

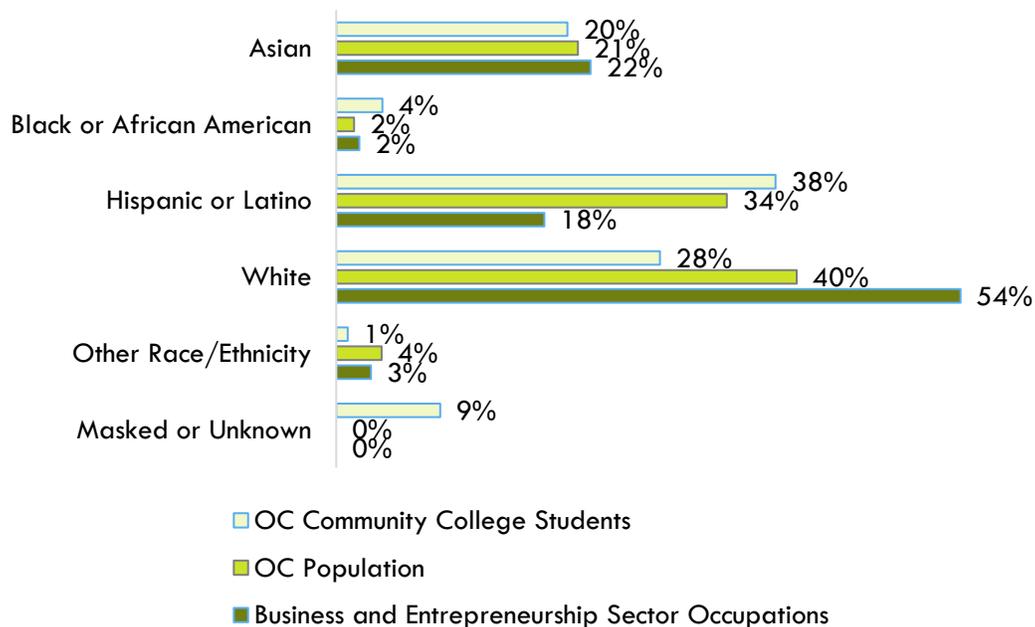
Ethnicity

Following are notable observations of the **Business and Entrepreneurship** sector by ethnicity:

- The majority of workers are white (54%), followed by Asian workers (22%).
- There is a higher percentage of white workers in the sector (54%) than community college students (28%) – a deviation of 26%.
- Hispanic or Latino students make up the plurality of community college students (38%) in **Business and Entrepreneurship** programs.
 - There is a higher percentage of Hispanic or Latino students (38%) than workers in the sector (18%) – a deviation of 20%.
- White workers make up the majority or plurality in 51 occupations, 32 of which are above middle-skill; Asian workers are the majority or plurality in six occupations and Hispanic or Latino workers make up the plurality in two occupations.
- Of the 35 above middle-skill occupations, white workers are the majority or plurality in 32 and Asian workers are the plurality in three.

Exhibit 32 shows the breakdown of ethnicity in the **Business and Entrepreneurship** sector.

Exhibit 32: Business and Entrepreneurship Demographics by Ethnicity



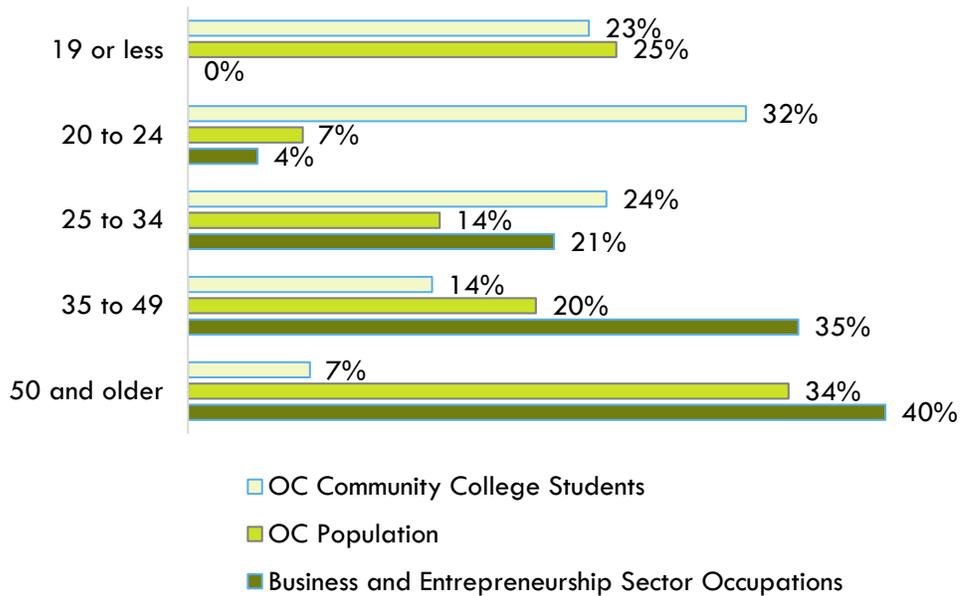
Age Group

Following are notable observations of the **Business and Entrepreneurship** sector by age:

- The plurality of workers are age 50 or older (40%), which is higher than the OC population (34%) and significantly higher than community college students (7%).
 - This sector has the fourth-highest percentage (40%) of 50 and older workers when compared to all sectors.
- 75% of workers are 35 or older, but 79% of community college students are 34 or less.

Exhibit 33 shows the breakdown of age in the **Business and Entrepreneurship** sector.

Exhibit 33: Business and Entrepreneurship Demographics by Age



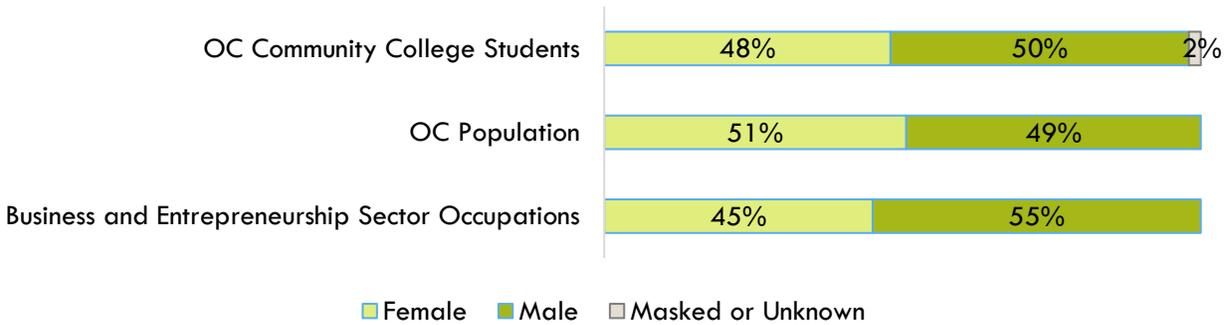
Sex

Following are notable observations of the **Business and Entrepreneurship** sector by sex:

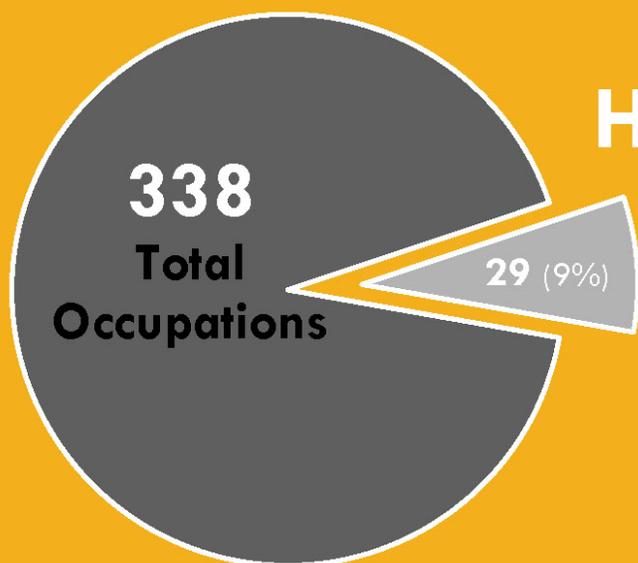
- Community college **Business and Entrepreneurship** students are split relatively evenly between female (49%) and male (50%) students.
- The majority of **Business and Entrepreneurship** workers are men (55%).
- Female workers make up the majority of 30 occupations, 53% (16) of which are above middle-skill.

Exhibit 34 shows the breakdown of sex in the **Business and Entrepreneurship** sector.

Exhibit 34: Business and Entrepreneurship Demographics by Sex



EDUCATION AND HUMAN DEVELOPMENT

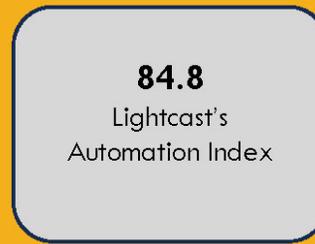
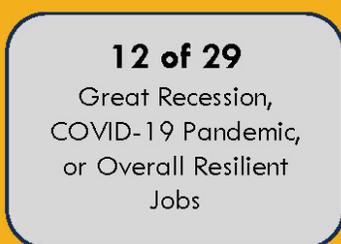
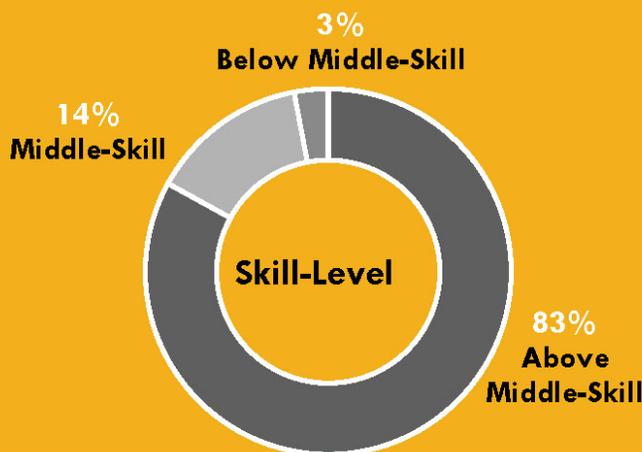


109,317
Jobs in 2022

10%
Projected Growth

12,988
Annual Openings

\$26.61
Entry-Level Hourly Wage



Did you know:

- **Education and Human Development** is the sector with the largest percentage (83%) of above middle-skill occupations analyzed
- **73%** of this sector's average annual openings are above middle-skill
- **White females, 35 to 49 years**, are the predominant demographic characteristics for this sector

Education and Human Development Occupational Criteria Data

The **Education and Human Development** occupational sector includes a variety of academic administration, childcare, and teaching roles. Workers in these occupations often work in all levels of education, ranging from preschool to community colleges and universities. Teaching roles typically require a teaching credential while administrative roles typically require advanced education and experience.

Below are notable data points for the **Education and Human Development** sector.

- Of the 29 occupations, 24 are above middle-skill, 4 are middle-skill, and 1 is below middle-skill.
- 73% of average annual openings are above middle-skill.
- 26 occupations meet the annual openings criteria.
- **Education and Human Development** is the sector with the largest percentage (83%) of above middle-skill occupations analyzed in this report.
- 4 occupations, all above middle-skill, are listed as a U.S. News & World 2023 Best Job.
- 17 occupations meet both the California Insight's Living Wage and the MIT Living wage list.
- 4 occupations only meet the California Insight's Living Wage; all four are above middle-skill occupations.
- *Self-Enrichment Teachers (SOC 25-3021)* will grow the most over the next five years (22%) and is one of four occupations with more than 1,000 annual openings.
- 3 occupations meet all criteria, all of which are above middle-skill.

Exhibit 35 shows the 29 occupations analyzed in the **Education and Human Development** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 35: Education and Human Development Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
25-2021	Elementary School Teachers, Except Special Education	Above Middle-Skill	8	11,508	8%	1,034	\$31.74	1	1	82.3
21-1012	Educational, Guidance, and Career Counselors and Advisors	Above Middle-Skill	8	3,445	7%	342	\$26.44	1	1	80
25-2022	Middle School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	8	3,376	9%	311	\$36.31	1	1	84.5
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	7	7,286	8%	631	\$30.88	0	1	84.9
25-3099	Teachers and Instructors, All Other	Above Middle-Skill	7	1,768	10%	244	\$26.19	1	0	85.1
11-9032	Education Administrators, Kindergarten through Secondary	Above Middle-Skill	7	2,001	9%	189	\$49.60	1	0	79.2
25-9031	Instructional Coordinators	Above Middle-Skill	7	1,192	13%	147	\$23.84	1	0	88.5
25-2052	Special Education Teachers, Kindergarten and Elementary School	Above Middle-Skill	7	1,405	7%	127	\$31.06	1	0	83.7
11-9039	Education Administrators, All Other	Above Middle-Skill	7	895	14%	97	\$30.82	1	0	82.7
25-2012	Kindergarten Teachers, Except Special Education	Middle-Skill	7	589	9%	76	\$36.87	1	0	82.5
21-1021	Child, Family, and School Social Workers	Above Middle-Skill	6	4,572	10%	535	\$22.24	1	0	83.7
13-1151	Training and Development Specialists	Above Middle-Skill	6	3,511	8%	387	\$23.00	1	0	88
11-9033	Education Administrators, Postsecondary	Above Middle-Skill	6	2,384	6%	209	\$37.01	1	0	79.6
25-4022	Librarians and Media Collections Specialists	Above Middle-Skill	6	657	11%	83	\$27.92	0	0	96.4

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
25-2058	Special Education Teachers, Secondary School	Above Middle-Skill	6	740	9%	69	\$36.91	0	0	81.8
25-1099	Postsecondary Teachers	Above Middle-Skill	5	18,711	6%	1,907	\$40.02	0	0	86.6
21-1013	Marriage and Family Therapists	Above Middle-Skill	5	2,955	13%	323	\$21.64	0	0	79.1
25-2059	Special Education Teachers, All Other	Above Middle-Skill	5	866	8%	79	\$22.15	0	0	77.1
25-3041	Tutors	Above Middle-Skill	4	7,881	14%	1,466	\$14.24	0	0	85.1
25-9045	Teaching Assistants, Except Postsecondary	Middle-Skill	4	10,546	8%	1,452	\$17.54	0	0	89.7
25-3021	Self-Enrichment Teachers	Below Middle-Skill	4	7,006	22%	1,181	\$15.26	0	0	89
25-3031	Substitute Teachers, Short-Term	Above Middle-Skill	4	5,679	8%	769	\$18.56	0	0	83.3
25-2011	Preschool Teachers, Except Special Education	Middle-Skill	4	4,685	9%	612	\$16.65	0	0	81.5
21-1019	Counselors, All Other	Above Middle-Skill	4	2,309	10%	293	\$16.92	0	0	80.8
25-9044	Teaching Assistants, Postsecondary	Middle-Skill	4	1,579	8%	216	\$15.36	0	0	86.6
21-1099	Community and Social Service Specialists, All Other	Above Middle-Skill	4	1,070	10%	143	\$15.82	0	0	81.8
25-2057	Special Education Teachers, Middle School	Above Middle-Skill	4	460	8%	42	\$31.45	0	0	84.2
25-2032	Career/Technical Education Teachers, Secondary School	Above Middle-Skill	4	145	13%	14	\$37.05	0	0	83.6
25-2051	Special Education Teachers, Preschool	Above Middle-Skill	4	96	15%	10	\$28.00	0	0	84.4
Total			-	109,317	10%	12,988	\$26.61	-	-	-

Education and Human Development Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Education and Human Development** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- White females, 35 to 49 years, are the predominant demographic characteristics for the **Education and Human Development** sector.

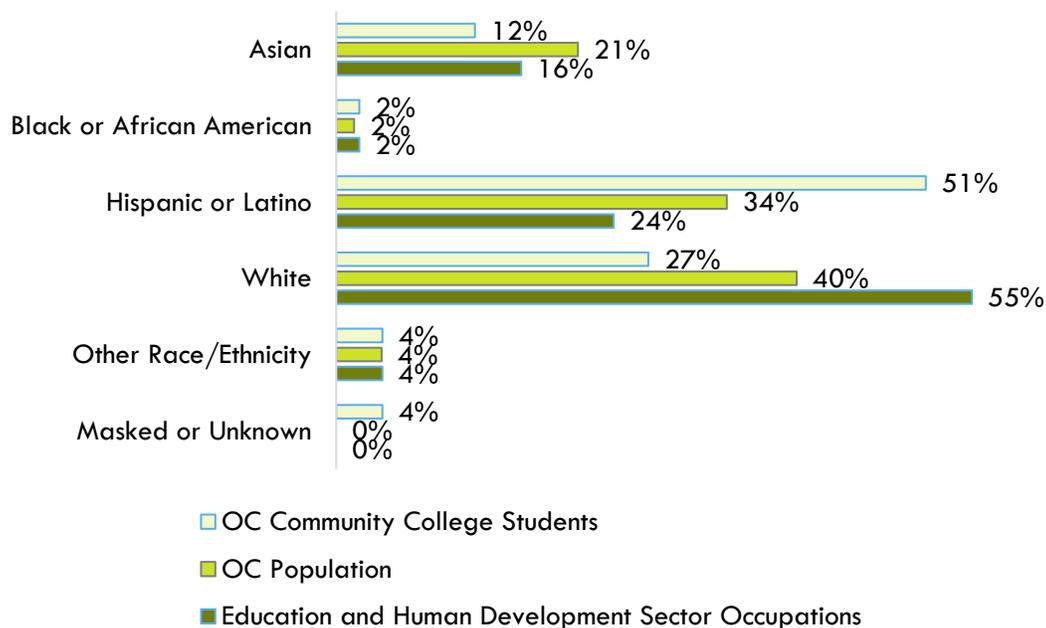
Ethnicity

Following are notable observations of the **Education and Human Development** sector by ethnicity:

- The majority of workers are white (55%), followed by Hispanic or Latino workers (24%).
- 21% of the OC population is Asian, which is higher than the percentage of workers (16%) and community college students (12%).
- There is a higher percentage of Hispanic or Latino students (51%) than workers in the sector (24%) – a deviation of 27%.
- There is a higher percentage of white workers in the region (55%) than students (27%) – a deviation of 28%.
- White workers make up the majority of 18 occupations; 94% (17) of these occupations are above middle-skill.
- The occupations with the highest percentage of Hispanic or Latino workers are middle-skill occupations.

Exhibit 36 shows the breakdown of ethnicity in the **Education and Human Development** sector.

Exhibit 36: Education and Human Development Demographics by Ethnicity



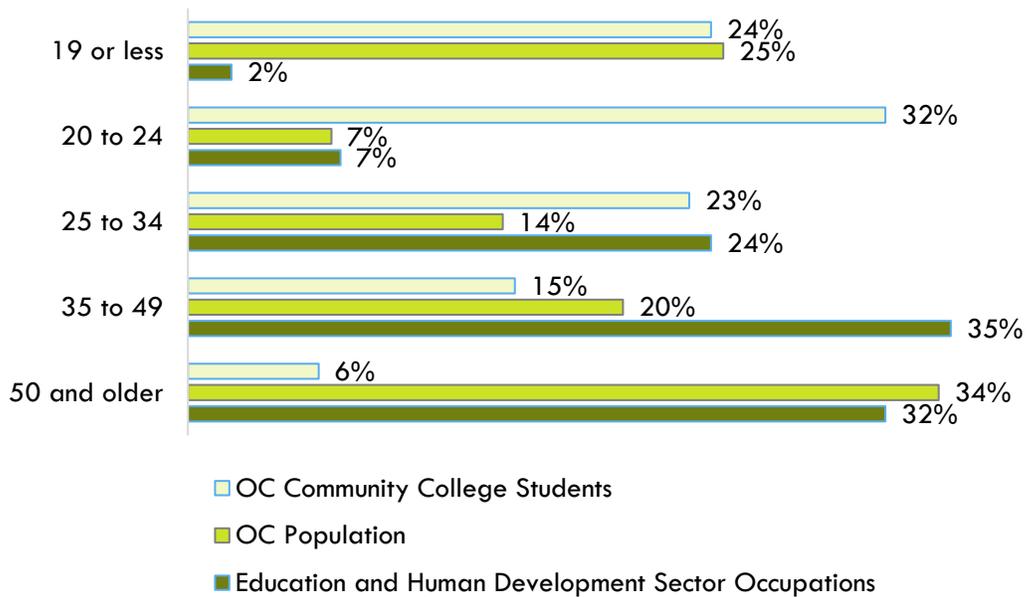
Age Group

Following are notable observations of the **Education and Human Development** sector by age:

- 35% of workers are aged 35 to 49 which is higher than the OC population (20%) and community college students (15%).
- 67% of workers are 35 or older. Conversely, 79% of community college students are 34 or less.
- 47% of *Tutors*, an above middle-skill occupation, are 24 or less.

Exhibit 37 shows the breakdown of age in the **Education and Human Development** sector.

Exhibit 37: Education and Human Development Demographics by Age



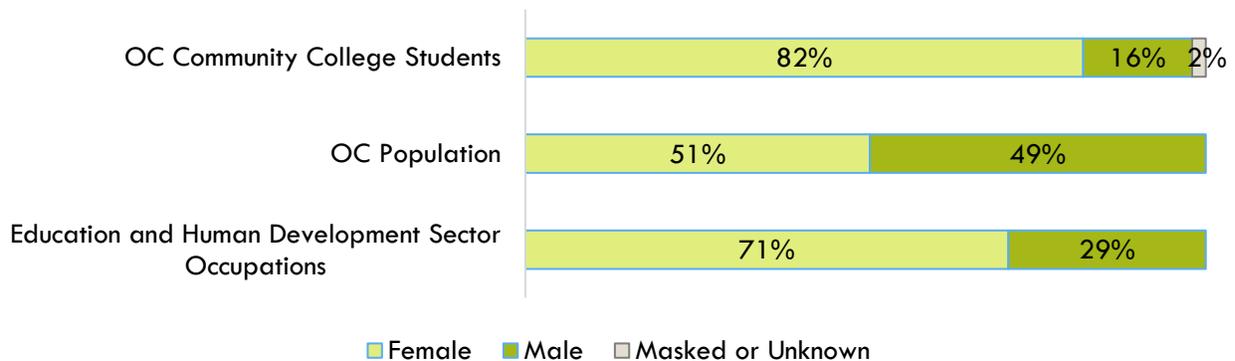
Sex

Following are notable observations of the **Education and Human Development** sector by sex:

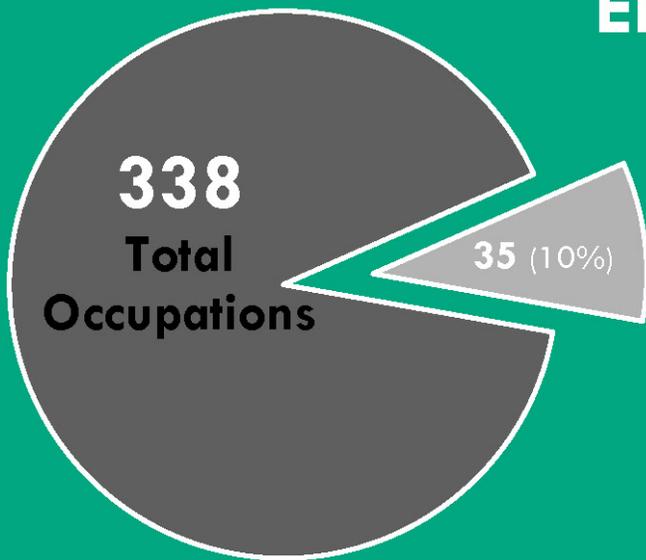
- 71% of workers in these occupations are women. Similarly, 82% of community college education students are women.
- Female workers make up the majority in all 29 occupations.
- There are 85% or more female workers for 24% of the **Education and Human Development** occupations.
- Two of the occupations are made up entirely by female workers (100%) – *Preschool Teachers, Except Special Education* (SOC 25-2011) and *Kindergarten Teachers, Except Special Education* (SOC 25-2012).

Exhibit 38 shows the breakdown of sex in the **Education and Human Development** sector.

Exhibit 38: Education and Human Development Demographics by Sex



ENERGY, CONSTRUCTION, AND UTILITIES



DEMAND
7,832
Annual Openings

SUPPLY
1,368
Awards Conferred

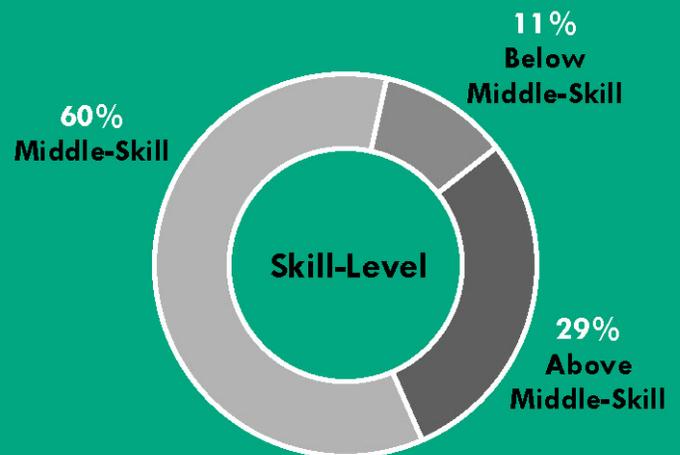
LABOR GAP
6,464

72,991
Jobs in 2022

6%
Projected Growth

7,832
Annual Openings

\$30.70
Entry-Level Hourly Wage



11 of 35

Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

5 of 35

U.S. News & World
Report 2023 Best
Job

105.3

Lightcast's
Automation Index

Did you know:

- *Electricians (47-2111)*, a middle-skill occupation, not only has the most annual openings but comprises **15%** of all annual openings in the sector
- *Energy, Construction, and Utilities (10%)* has the fewest female workers of any sector
- **White males, 50 and older**, are the predominant demographic

Energy, Construction, and Utilities Occupational Criteria Data

The **Energy, Construction, and Utilities** occupational sector includes a variety of workers involved in energy production and distribution, construction of residential and commercial buildings, and electric, telecommunications, and water utilities. Workers in these occupations often work on energy production plants, construction job sites, or other sites that may require repairs to gas lines, water lines, or other utility lines. **Energy, Construction, and Utilities** may also involve the use of heavy equipment and machinery such as backhoes, cranes, graders, and conveyors.

Below are notable data points for the **Energy, Construction, and Utilities** sector.

- Of the 35 occupations, 10 are above middle-skill, 21 are middle-skill, and 4 are below middle-skill. Below are notable data points:
- 23 occupations meet the annual openings criteria.
- 5 occupations are listed as a U.S. News & World Report 2023 Best Job.
- 33 occupations meet both the California Insight's Living Wage and the MIT Living Wage.
- The 14 occupations with 5% or less annual growth, 9 of which are middle-skill, make up 40% of average annual openings.
- *Electricians* (47-2111), a middle-skill occupation, has the most annual openings – and comprises 15% of all annual openings in the sector.

Exhibit 39 shows the 35 occupations analyzed in the **Energy, Construction and Utilities** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 39: Energy, Construction, and Utilities Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
11-9021	Construction Managers	Above Middle-Skill	8	6,302	8%	601	\$35.84	1	1	88.6
47-2111	Electricians	Middle-Skill	7	8,976	11%	1,159	\$24.26	1	1	110.3
17-2051	Civil Engineers	Above Middle-Skill	7	5,357	8%	463	\$38.75	1	0	81.7
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Middle-Skill	6	4,537	8%	519	\$23.80	1	0	113
17-1011	Architects, Except Landscape and Naval	Above Middle-Skill	6	3,207	8%	282	\$30.19	0	0	76.6
17-3011	Architectural and Civil Drafters	Middle-Skill	6	1,747	4%	218	\$25.76	1	0	88.9
19-2041	Environmental Scientists and Specialists, Including Health	Above Middle-Skill	6	645	9%	73	\$32.92	0	0	74.6
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	Middle-Skill	5	7,956	5%	858	\$32.56	1	0	106.2
47-2073	Operating Engineers and Other Construction Equipment Operators	Middle-Skill	5	2,609	6%	306	\$29.70	1	0	120.3
47-2181	Roofers	Below Middle-Skill	5	2,587	8%	290	\$27.79	0	0	130.8
11-9041	Architectural and Engineering Managers	Above Middle-Skill	5	3,833	1%	281	\$66.74	0	0	80.7
49-2098	Security and Fire Alarm Systems Installers	Middle-Skill	5	1,530	5%	184	\$24.46	1	0	113.2
47-4011	Construction and Building Inspectors	Middle-Skill	5	1,322	5%	179	\$27.47	0	0	92.7
47-2161	Plasterers and Stucco Masons	Below Middle-Skill	5	1,176	5%	116	\$24.04	1	0	130.1
17-3022	Civil Engineering Technologists and Technicians	Middle-Skill	5	639	5%	71	\$29.39	0	0	92.4
47-2152	Plumbers, Pipefitters, and Steamfitters	Middle-Skill	4	5,124	6%	599	\$24.32	0	0	116.3
47-2081	Drywall and Ceiling Tile Installers	Below Middle-Skill	4	4,427	5%	417	\$24.11	0	0	132.7
47-2051	Cement Masons and Concrete Finishers	Below Middle-Skill	4	3,277	2%	308	\$24.21	0	0	126.6

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	Middle-Skill	4	1,491	(3%)	167	\$27.79	0	0	105.1
49-9052	Telecommunications Line Installers and Repairers	Middle-Skill	4	1,380	(5%)	143	\$24.52	0	0	116.9
47-2211	Sheet Metal Workers	Middle-Skill	4	1,224	4%	133	\$24.73	0	0	117.7
51-8021	Stationary Engineers and Boiler Operators	Middle-Skill	4	604	3%	80	\$23.10	1	0	109.9
47-2231	Solar Photovoltaic Installers	Middle-Skill	4	470	20%	74	\$21.00	0	1	119.7
51-8011	Nuclear Power Reactor Operators	Middle-Skill	4	453	15%	61	\$49.37	0	0	92.7
17-3031	Surveying and Mapping Technicians	Middle-Skill	4	357	9%	53	\$27.93	0	0	94.3
17-1022	Surveyors	Above Middle-Skill	4	429	8%	40	\$35.05	0	0	95.8
47-2071	Paving, Surfacing, and Tamping Equipment Operators	Middle-Skill	4	265	11%	34	\$24.53	1	0	117.3
19-4051	Nuclear Technicians	Middle-Skill	4	226	15%	33	\$38.28	0	0	91.1
19-2042	Geoscientists, Except Hydrologists and Geographers	Above Middle-Skill	4	299	8%	32	\$28.09	0	0	77.5
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Middle-Skill	4	169	7%	18	\$43.48	0	0	99.9
17-2161	Nuclear Engineers	Above Middle-Skill	4	101	25%	13	\$55.26	0	0	75.7
17-2171	Petroleum Engineers	Above Middle-Skill	4	146	4%	11	\$36.37	0	1	82
49-9081	Wind Turbine Service Technicians	Middle-Skill	4	67	14%	9	\$25.28	0	1	106.3
19-4043	Geological Technicians, Except Hydrologic Technicians	Middle-Skill	4	24	17%	4	\$25.34	0	0	87.9
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	Above Middle-Skill	4	35	7%	3	\$48.66	0	0	81.1
Total			-	72,991	6%	7,832	\$30.70			

Energy, Construction, and Utilities Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Energy, Construction, and Utilities** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- White males, 50 and older, are the predominant demographic characteristics for the **Energy, Construction, and Utilities** sector.

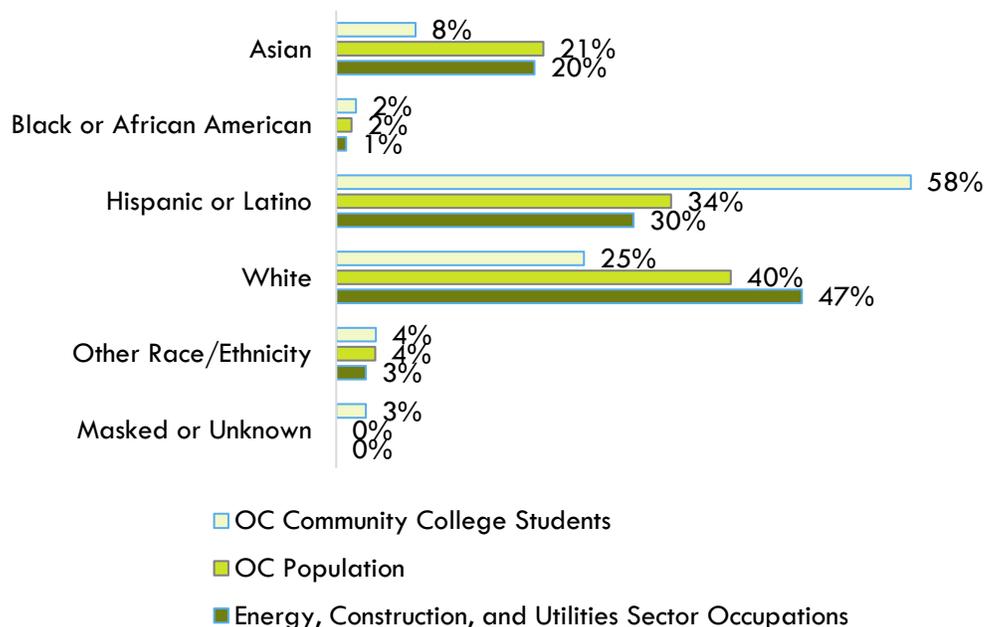
Ethnicity

Following are notable observations of the **Energy, Construction, and Utilities** sector by ethnicity:

- The plurality of workers are white (47%), followed by Hispanic or Latino workers (30%).
- The majority of community college students are Hispanic or Latino (58%), followed by white students (25%).
- There is a higher percentage of Hispanic or Latino students (58%) than workers in the sector (30%) – a deviation of 28%.
- White workers make up the plurality in 19 occupations, nine of which are above middle-skill; Hispanic or Latino workers account for the plurality in 10 occupations, and Asian workers in six.
- Hispanic or Latino workers make up the majority in all four below middle-skill occupations and the plurality for 29% of middle-skill occupations.
- Of the 10 above middle-skill level occupations, white workers make up the majority in nine.
- Asian workers make up the majority in 24% of middle-skill occupations and 10% of above middle-skill occupations.

Exhibit 40 shows the breakdown of ethnicity in the **Energy, Construction, and Utilities** sector.

Exhibit 40: Energy, Construction, and Utilities Demographics by Ethnicity



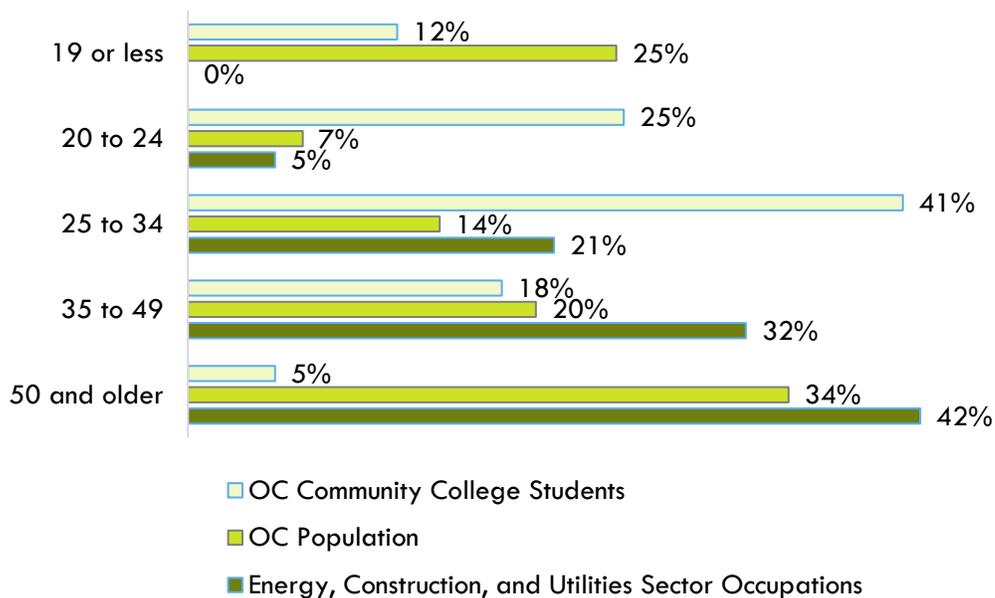
Age Group

Following are notable observations of the **Energy, Construction, and Utilities** sector by age:

- 42% of workers are 50 or older, which is higher than the OC population (34%) and community college students (5%).
 - This sector has the second-highest percentage of 50 or older workers when compared to all sectors.
- 74% of workers are 35 or older; conversely, 78% of community college students are 34 or less.
- There are more community college students (41%) in the 25-34 age group compared to workers in the sector (21%) and overall population (14%).
- Workers aged 50 or older make up the majority in 90% of all above middle-skill occupations.

Exhibit 41 shows the breakdown of age in the **Energy, Construction, and Utilities** sector.

Exhibit 41: Energy, Construction, and Utilities Demographics by Age



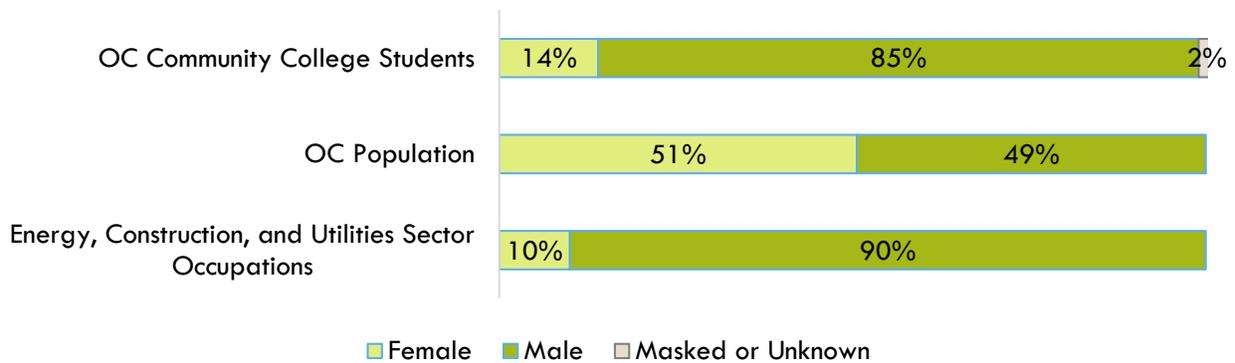
Sex

Following are notable observations of the **Energy, Construction, and Utilities** sector by sex:

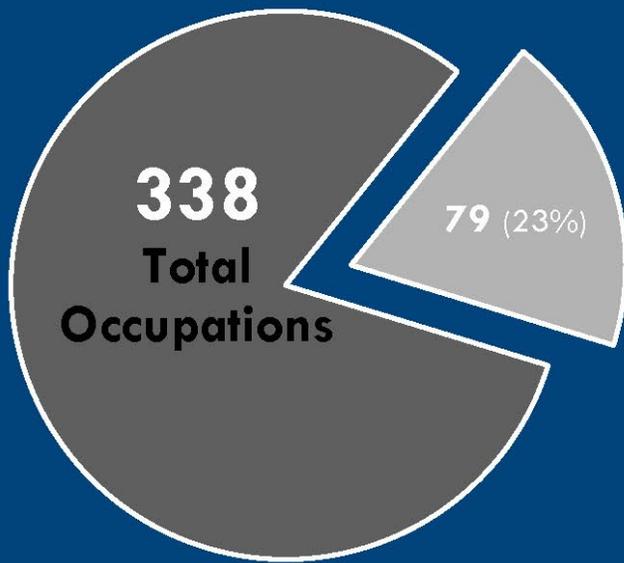
- 90% of workers in these occupations are men. Similarly, 85% of community college students are men.
- 26 of 35 occupations are made up of 85% or more male workers.
- 9 of 35 occupations are made up entirely (100%) by male workers. These occupations range from below middle-skill to above middle-skill level.
- Female workers make up the majority in only one occupations, *Environmental Scientists and Specialists, Including Health*, which is an above middle-skill level occupation.

Exhibit 42 shows the breakdown of sex in the **Energy, Construction, and Utilities** sector.

Exhibit 42: Energy, Construction, and Utilities Demographics by Sex



HEALTH

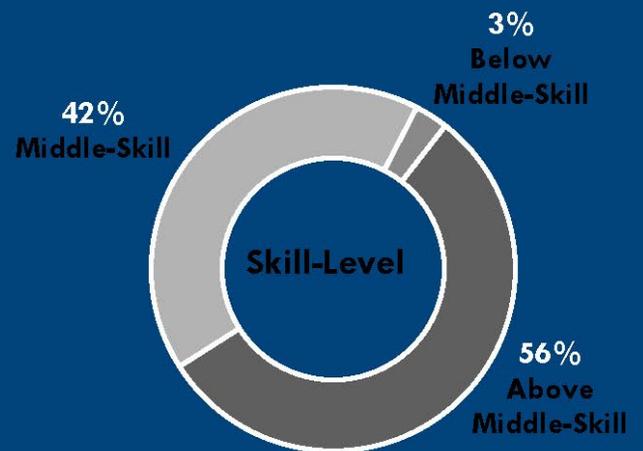


202,079
Jobs in 2022

16%
Projected Growth

29,378
Annual Openings

\$27.73
Entry-Level Hourly Wage



20 of 79
Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

41 of 79
U.S. News & World
Report 2023 Best
Job

90.5
Lightcast's
Automation Index

Did you know:

- 13 of 26 (50%) “Best-of-the-Best” occupations are in the *Health* sector – meaning they met or exceeded all 8 criteria
- *Health* has the highest number (33) of middle-skill occupations analyzed in this report.
- Asian females, 50 and older, respectively are the predominant demographic characteristics for the *Health* sector.

Health Occupational Criteria Data

The **Health** occupational sector includes doctors, dentists, nurses, healthcare support, and administrative roles. Workers in these occupations often work in hospitals, private practices, pharmacies, or laboratories. **Health** workers are often required to obtain a license or certification in order to work with patients. **Health** workers interact with a variety of patients, ranging from newborn children to those in hospice care.

In this section, the analysis focuses on the performance of the **Health** sector in Orange County across the 8 criteria utilized throughout this report. The following are notable observations of the size of the sector based on the 79 occupations analyzed.

Below are notable data points for the **Health** sector.

- Of the 79 occupations, 44 are above middle-skill, 33 are middle-skill, and 2 are below middle-skill.
- Middle-skill occupations make up 86% of the annual jobs, despite having fewer (44) than above middle-skill occupations (33).
- 49 occupations meet the annual openings criteria – 26 of which are middle-skill (53%).
- 41 occupations are listed as a U.S. News & World Report 2023 Best Job.
- 54 occupations meet both the California Insight’s Living Wage and the MIT Living Wage. 8 occupations do not meet the MIT living wage.
- 13 occupations meet all criteria, comprising 15% of all jobs in the sector.
- Health sector has the second highest number of occupations (20) meeting the Great Recession, COVID-19 Pandemic, or Overall Resilient criteria.
- The **Health** sector has the most occupations analyzed in this report of any sector and consequently, the highest number of above middle-skill and middle-skill occupations.
- The **Health** sector accounts for 50% of all jobs in “The Best-of-the-Best” section – the most of any sector.

Exhibit 43 shows the 79 occupations analyzed in the **Health** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight’s Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 43: Health Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
29-1141	Registered Nurses	Middle-Skill	8	25,617	9%	1,996	\$48.32	1	1	85.3
11-9111	Medical and Health Services Managers	Above Middle-Skill	8	4,314	21%	553	\$40.87	1	1	75.2
29-1292	Dental Hygienists	Middle-Skill	8	3,126	13%	296	\$51.60	1	1	96.8
29-1123	Physical Therapists	Above Middle-Skill	8	2,741	14%	207	\$45.50	1	1	85.5
29-1171	Nurse Practitioners	Above Middle-Skill	8	1,696	32%	207	\$58.95	1	1	83.2
31-2021	Physical Therapist Assistants	Middle-Skill	8	932	22%	185	\$32.65	1	1	88.1
29-1127	Speech-Language Pathologists	Above Middle-Skill	8	1,659	18%	167	\$39.16	1	1	87.5
29-1071	Physician Assistants	Above Middle-Skill	8	1,502	19%	149	\$59.36	1	1	87.8
29-1021	Dentists, General	Above Middle-Skill	8	3,058	8%	142	\$29.77	1	1	87.9
29-1122	Occupational Therapists	Above Middle-Skill	8	1,511	13%	132	\$46.37	1	1	87.3
19-3033	Clinical and Counseling Psychologists	Above Middle-Skill	8	774	21%	87	\$38.24	1	1	85.4
29-1041	Optometrists	Above Middle-Skill	8	1,336	15%	81	\$35.36	1	1	83.2
29-2032	Diagnostic Medical Sonographers	Middle-Skill	8	822	17%	76	\$45.46	1	1	93.3
29-2061	Licensed Practical and Licensed Vocational Nurses	Middle-Skill	7	6,721	10%	704	\$30.74	0	1	84.8
21-1023	Mental Health and Substance Abuse Social Workers	Above Middle-Skill	7	1,461	17%	191	\$27.04	1	0	81.7
29-1051	Pharmacists	Above Middle-Skill	7	3,269	5%	161	\$64.31	1	1	89.1
29-2034	Radiologic Technologists and Technicians	Middle-Skill	7	1,675	14%	142	\$31.42	1	0	94.1
19-3039	Psychologists, All Other	Above Middle-Skill	7	1,104	12%	107	\$28.87	1	0	80.2
29-1126	Respiratory Therapists	Middle-Skill	7	1,212	10%	91	\$36.60	0	1	93.2
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Above Middle-Skill	6	3,363	25%	513	\$20.80	0	1	84.9
29-2072	Medical Records Specialists	Middle-Skill	6	2,252	7%	198	\$21.39	0	1	92.1
21-1022	Healthcare Social Workers	Above Middle-Skill	6	1,184	17%	158	\$30.01	0	0	83.5

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
19-1042	Medical Scientists, Except Epidemiologists	Above Middle-Skill	6	1,535	9%	127	\$46.34	0	0	78.6
31-2011	Occupational Therapy Assistants	Middle-Skill	6	460	22%	98	\$32.94	0	1	87.3
29-2055	Surgical Technologists	Middle-Skill	6	808	10%	74	\$28.31	0	0	89
29-1229	Physicians, All Other	Above Middle-Skill	6	1,481	10%	72	\$53.62	0	0	88.9
19-3034	School Psychologists	Above Middle-Skill	6	786	5%	71	\$36.69	0	1	85.4
29-1216	General Internal Medicine Physicians	Above Middle-Skill	6	645	7%	28	\$43.46	0	1	83.3
29-1223	Psychiatrists	Above Middle-Skill	6	589	9%	28	\$81.61	0	1	85.8
31-1128	Home Health and Personal Care Aides	Middle-Skill	5	55,559	25%	12,093	\$14.05	0	1	93.6
31-9092	Medical Assistants	Middle-Skill	5	10,273	13%	1,775	\$18.29	0	1	97.3
31-9011	Massage Therapists	Middle-Skill	5	4,618	17%	831	\$14.91	0	1	86.5
29-2081	Opticians, Dispensing	Middle-Skill	5	1,060	14%	126	\$20.76	0	0	92.9
21-1094	Community Health Workers	Middle-Skill	5	808	14%	115	\$18.36	0	1	80.6
31-9093	Medical Equipment Preparers	Middle-Skill	5	645	9%	106	\$21.55	1	0	110.1
29-1031	Dietitians and Nutritionists	Above Middle-Skill	5	1,153	10%	102	\$14.93	0	1	84.7
21-1029	Social Workers, All Other	Above Middle-Skill	5	634	10%	74	\$21.95	0	0	81.9
29-1215	Family Medicine Physicians	Above Middle-Skill	5	966	7%	43	\$79.08	0	0	85.2
29-2031	Cardiovascular Technologists and Technicians	Middle-Skill	5	446	9%	38	\$27.55	0	1	91.7
29-2035	Magnetic Resonance Imaging Technologists	Middle-Skill	5	293	19%	30	\$40.30	0	1	92.8
29-1211	Anesthesiologists	Above Middle-Skill	5	674	5%	27	\$89.43	0	1	82.1
29-2091	Orthotists and Prosthetists	Above Middle-Skill	5	183	23%	23	\$31.30	0	1	91.1
29-1151	Nurse Anesthetists	Above Middle-Skill	5	179	19%	16	\$98.35	0	1	90.5
29-1181	Audiologists	Above Middle-Skill	5	195	11%	13	\$42.05	0	1	96.2
29-1218	Obstetricians and Gynecologists	Above Middle-Skill	5	279	6%	12	\$98.90	1	1	83
19-1041	Epidemiologists	Above Middle-Skill	5	73	17%	7	\$29.47	0	1	75
29-1023	Orthodontists	Above Middle-Skill	5	81	8%	4	\$91.01	0	1	91.9

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
29-1022	Oral and Maxillofacial Surgeons	Above Middle-Skill	5	46	9%	2	\$115.00	0	1	75.1
29-9092	Genetic Counselors	Above Middle-Skill	5	15	30%	2	\$45.73	0	1	85.6
29-1024	Prosthodontists	Above Middle-Skill	5	10	11%	1	\$40.73	0	1	93.6
31-1131	Nursing Assistants	Middle-Skill	4	9,304	12%	1,683	\$18.63	0	0	97
43-6013	Medical Secretaries and Administrative Assistants	Middle-Skill	4	10,356	9%	1,438	\$18.07	0	0	93.1
31-9091	Dental Assistants	Middle-Skill	4	6,521	11%	1,132	\$18.31	0	0	97.5
21-1093	Social and Human Service Assistants	Middle-Skill	4	4,327	16%	659	\$17.33	0	0	89.4
31-9097	Phlebotomists	Middle-Skill	4	1,816	19%	348	\$21.67	0	0	104.2
31-9099	Healthcare Support Workers, All Other	Middle-Skill	4	1,595	11%	272	\$18.35	0	0	98.4
29-2042	Emergency Medical Technicians	Middle-Skill	4	1,958	17%	229	\$16.78	0	0	83.7
29-2099	Health Technologists and Technicians, All Other	Middle-Skill	4	1,851	11%	180	\$19.17	0	0	92.1
51-9082	Medical Appliance Technicians	Below Middle-Skill	4	1,082	7%	164	\$16.86	1	0	115
31-2022	Physical Therapist Aides	Middle-Skill	4	907	12%	156	\$14.95	0	0	92.4
39-9041	Residential Advisors	Below Middle-Skill	4	626	16%	134	\$16.78	0	0	94.3
29-2053	Psychiatric Technicians	Middle-Skill	4	822	18%	107	\$18.92	0	0	79.4
21-1091	Health Education Specialists	Above Middle-Skill	4	515	10%	69	\$22.05	0	0	75.6
21-1015	Rehabilitation Counselors	Above Middle-Skill	4	614	8%	68	\$15.27	0	0	80.2
29-1291	Acupuncturists	Above Middle-Skill	4	537	8%	44	\$27.13	0	0	82.3
29-2043	Paramedics	Middle-Skill	4	457	17%	42	\$24.70	0	0	83.7
29-1011	Chiropractors	Above Middle-Skill	4	727	6%	33	\$20.93	0	1	81.8
29-9021	Health Information Technologists and Medical Registrars	Middle-Skill	4	301	14%	29	\$27.66	0	0	89.6
29-1221	Pediatricians, General	Above Middle-Skill	4	458	6%	19	\$67.66	0	1	82.7
29-1222	Physicians, Pathologists	Above Middle-Skill	4	320	12%	17	\$64.45	0	0	88.9
29-1214	Emergency Medicine Physicians	Above Middle-Skill	4	280	8%	13	\$97.06	0	0	88.9
29-1224	Radiologists	Above Middle-Skill	4	214	12%	11	\$103.52	0	0	88.9

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
29-1125	Recreational Therapists	Above Middle-Skill	4	88	13%	10	\$23.99	0	0	80.4
29-2033	Nuclear Medicine Technologists	Middle-Skill	4	122	12%	10	\$51.32	0	0	95.2
29-1081	Podiatrists	Above Middle-Skill	4	194	9%	9	\$50.03	0	0	86.6
29-1161	Nurse Midwives	Above Middle-Skill	4	78	12%	6	\$65.90	0	0	86.3
31-2012	Occupational Therapy Aides	Middle-Skill	4	30	17%	6	\$25.44	0	0	93
29-1124	Radiation Therapists	Middle-Skill	4	73	13%	5	\$45.89	0	0	92.7
29-1213	Dermatologists	Above Middle-Skill	4	83	8%	4	\$97.25	0	0	88.9
Total			-	202,079	16%	29,378	\$27.73			

Health Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Health** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- Asian, females, and 50 and older, respectively are the predominant demographic characteristics for the **Health** sector.

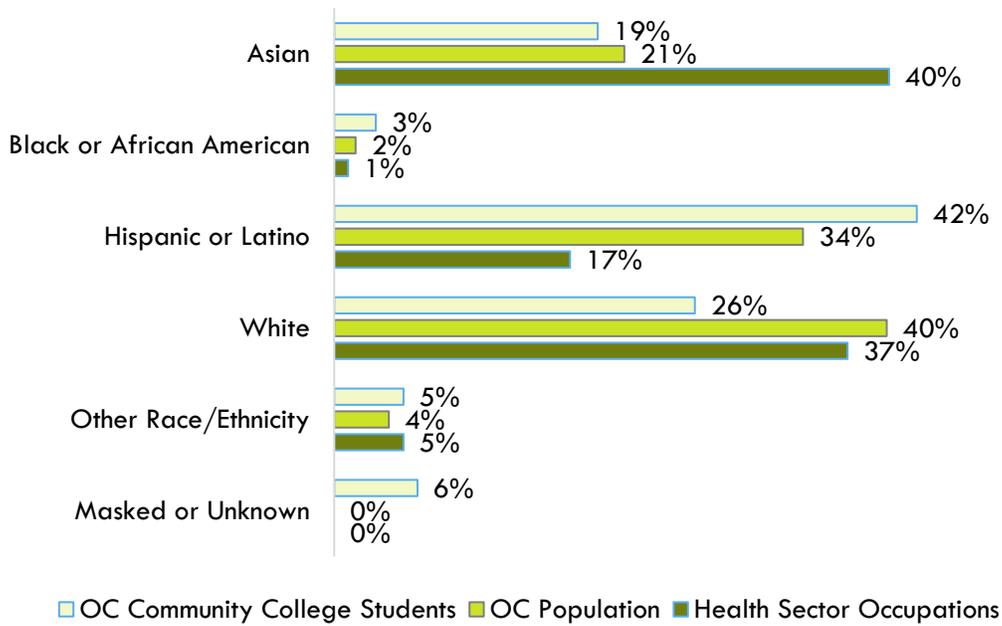
Ethnicity

Following are notable observations of the **Health** sector by ethnicity:

- The plurality of workers are Asian (40%), followed by white workers (37%).
- The plurality of community college students are Hispanic or Latino (42%), followed by white students (26%).
- There is a higher percentage of Hispanic or Latino students (42%) than workers in the sector (17%) – a deviation of 25%.
- Asian and white workers make up 77% of the sector, which is significantly higher than the 45% of community college students in these groups – a deviation of 32%.
- White workers make up the plurality in 35 occupations, 20 of which are above middle-skill; Asian account for the plurality workers in 26 occupations, Hispanic or Latino workers in 17, and Black or African American workers in one.
- Of the 44 above middle-skill occupations in this study, white workers make up the plurality in 20, Asian workers in another 20, and Hispanic or Latino in 4 .
 - Notably, the 4 occupations with a plurality of Hispanic or Latino workers are all related to social work and counseling. The occupations are *Social Workers, All Other* (SOC 21-1029); *Mental Health and Substance Abuse Social Workers* (SOC 21-1023); *Substance Abuse, Behavioral Disorder, and Mental Health Counselors* (SOC 21-1018); and *Rehabilitation Counselors* (SOC 21-1015).

Exhibit 44 shows the breakdown of ethnicity in the **Health** sector.

Exhibit 44: Health Demographics by Ethnicity

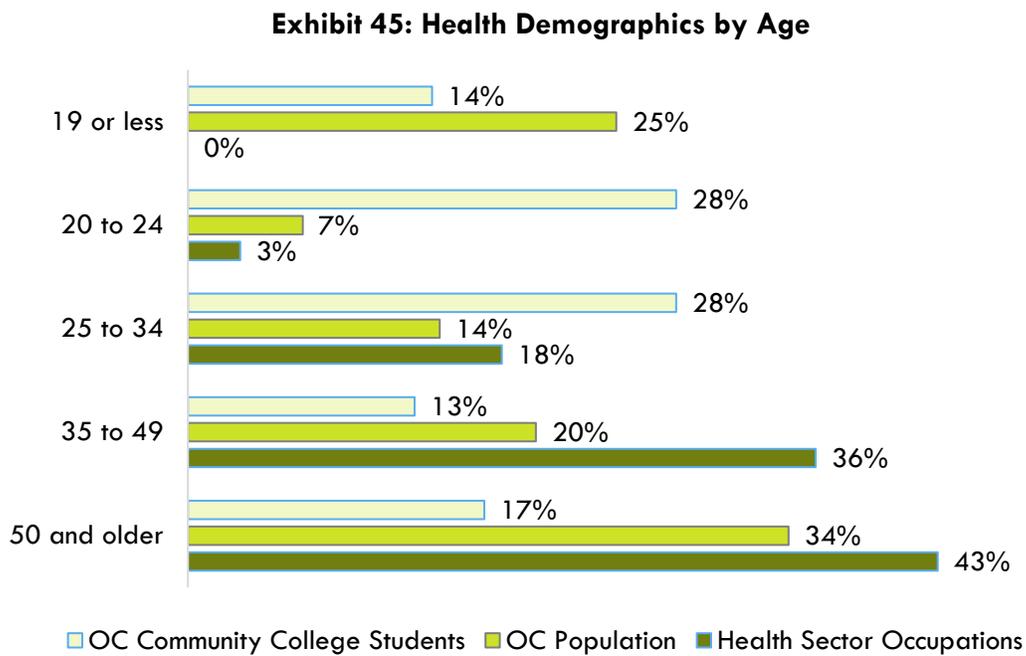


Age Group

Following are notable observations of the **Health** sector by age:

- 43% of workers are age 50 and older, which is higher than the OC population (34%) and community college students (17%).
 - This sector has the highest percentage of 50 and older workers when compared to all sectors.
- Only 21% of workers in these occupations are 34 or less, which is significantly lower than the population (46%) and community college students (70%).

Exhibit 45 shows the breakdown of age in the **Health** sector.



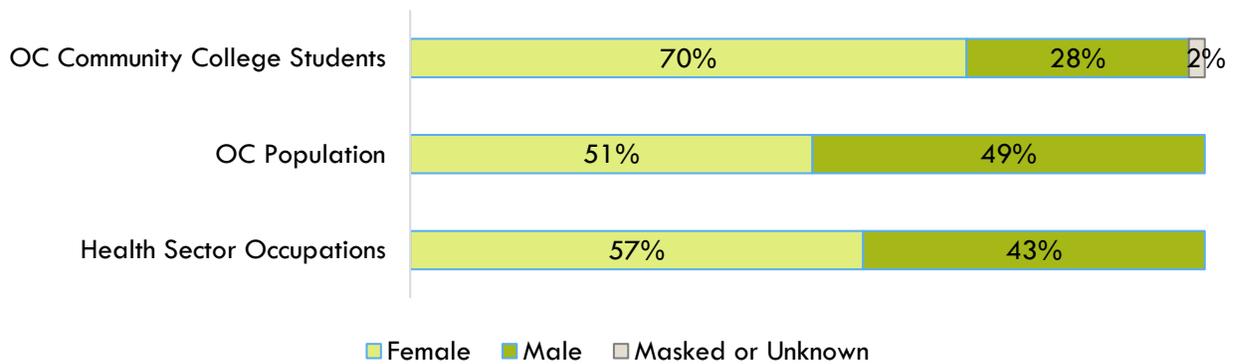
Sex

Following are notable observations of the **Health** sector by sex:

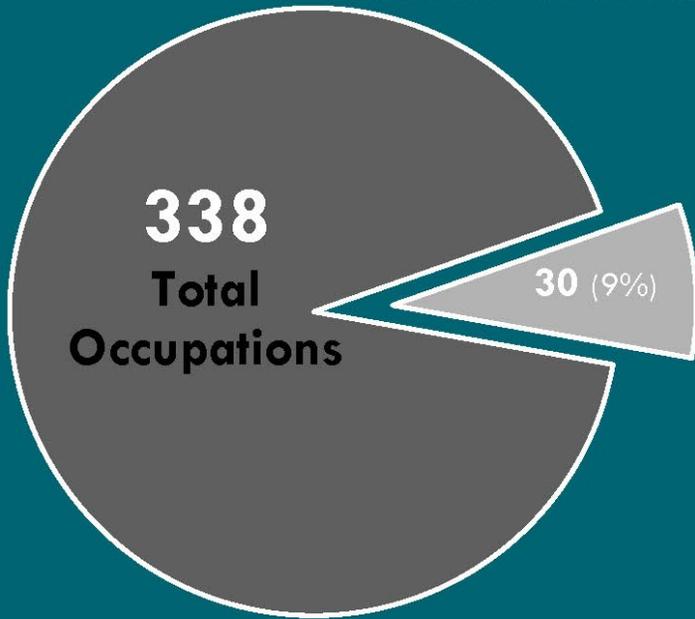
- The majority of **Health** sector workers (57%) and students (70%) are women.
- Female workers make up the majority in 57% of above middle-skill occupations.
- 16 of 79 occupations are made up of 85% or more female workers, ranging from below to above middle-skill levels.

Exhibit 46 shows the breakdown of sex in the **Health** sector.

Exhibit 46: Health Demographics by Sex



INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT)/DIGITAL MEDIA

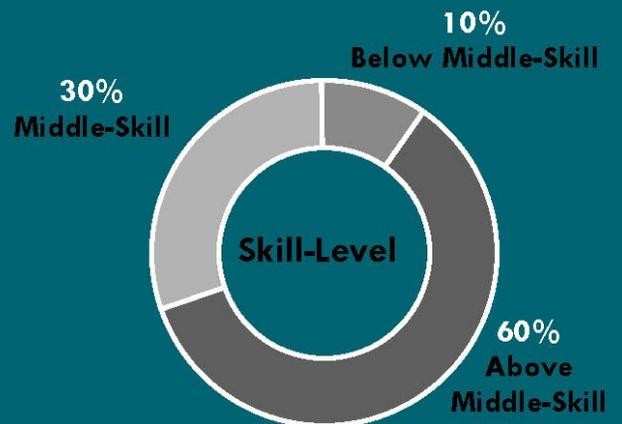


81,749
Jobs in 2022

6%
Projected Growth

7,392
Annual Openings

\$37.82
Entry-Level Hourly Wage



11 of 30
Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

9 of 30
U.S. News & World
Report 2023 Best
Job

83.3
Lightcast's
Automation Index

Did you know:

- Above middle-skill occupations comprise 60% of the occupations analyzed in this sector and 72% of the sector's annual openings
- 2 occupations in this sector meet all criteria – *Information Security Analysts (SOC 15-1212)* and *Data Scientists (SOC 15-2051)*
- White males, 35 to 49 years, are the predominant demographic characteristics for this sector

Information and Communication Technologies (ICT) and Digital Media Occupational Criteria Data

The **Information and Communication Technologies (ICT) and Digital Media** occupational sector includes two distinct areas. The ICT portion of this sector includes information technology workers such as help desk technicians, cybersecurity analysts, database administrators, software developers, and more. Conversely, Digital Media includes art directors, animators, graphic designers, lighting and sound technicians, web developers, and more. **Information and Communication Technologies (ICT) and Digital Media** workers may need to obtain certifications to demonstrate proficiency in different software or methods.

Below are notable data points for the **Information and Communication Technologies (ICT) and Digital Media** sector.

- Of the 30 occupations, 18 are above middle-skill, 9 are middle-skill, and 3 are below middle-skill.
- Above middle-skill occupations comprise 60% of the occupations analyzed in this sector and 72% of the sector's annual openings.
- 26 of 30 occupations meet the annual openings criteria.
- 22% of the annual openings for this sector come from one occupation, *Software Developers* (SOC 15-1252).
- 23 occupations meet both the California Insight's Living Wage and the MIT Living Wage; 5 do not meet the MIT Living Wage, and 2 occupations do not meet either living wage criteria.
- 9 of the occupations are listed as a U.S. News & World Report 2023 Best Job.
- Only 2 occupations in this sector meet all criteria – *Information Security Analysts* (SOC 15-1212) and *Data Scientists* (SOC 15-2051).

Exhibit 47 shows the 30 occupations analyzed in the **Information and Communication Technologies (ICT) and Digital Media** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 47: Information and Communication Technologies (ICT) and Digital Media Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 – 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
15-2051	Data Scientists	Above Middle-Skill	8	2,151	16%	233	\$34.97	1	1	83.4
15-1212	Information Security Analysts	Above Middle-Skill	8	1,181	17%	133	\$45.67	1	1	86.4
15-1252	Software Developers	Above Middle-Skill	7	18,171	11%	1,649	\$50.42	0	1	80.2
11-3021	Computer and Information Systems Managers	Above Middle-Skill	7	7,643	6%	667	\$62.26	1	1	79.9
15-1241	Computer Network Architects	Middle-Skill	7	1,590	2%	108	\$40.71	1	1	87.1
15-1242	Database Administrators	Above Middle-Skill	7	801	5%	65	\$34.95	1	1	88.1
15-1232	Computer User Support Specialists	Middle-Skill	6	7,922	4%	691	\$25.12	1	0	82.9
15-1299	Computer Occupations, All Other	Above Middle-Skill	6	7,190	3%	562	\$28.38	1	0	85.5
15-1211	Computer Systems Analysts	Above Middle-Skill	6	5,164	5%	425	\$40.58	0	1	81.7
27-2012	Producers and Directors	Above Middle-Skill	6	2,240	5%	237	\$31.17	1	0	89.1
15-1244	Network and Computer Systems Administrators	Middle-Skill	6	2,959	3%	221	\$35.61	0	1	87.2
27-1011	Art Directors	Above Middle-Skill	6	2,025	0%	215	\$30.85	1	0	81.6
15-1255	Web and Digital Interface Designers	Middle-Skill	6	1,940	9%	204	\$25.00	0	0	88.4
15-1253	Software Quality Assurance Analysts and Testers	Above Middle-Skill	6	2,194	9%	200	\$37.59	0	0	80.2
15-1254	Web Developers	Middle-Skill	6	1,151	10%	112	\$23.61	0	1	88.4
27-1024	Graphic Designers	Above Middle-Skill	5	4,904	0%	448	\$21.10	1	0	80.8
27-1014	Special Effects Artists and Animators	Above Middle-Skill	5	1,152	2%	128	\$27.47	0	0	72.2
15-1231	Computer Network Support Specialists	Middle-Skill	5	1,415	5%	126	\$26.74	0	0	86.9
17-2072	Electronics Engineers, Except Computer	Above Middle-Skill	5	1,834	(1%)	113	\$46.61	0	0	85.4
15-1251	Computer Programmers	Above Middle-Skill	5	1,642	(3%)	112	\$33.54	0	0	83.3
27-4012	Broadcast Technicians	Middle-Skill	5	725	5%	77	\$34.05	0	0	96.3
27-4011	Audio and Video Technicians	Middle-Skill	5	579	15%	76	\$21.24	0	0	97.8

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 – 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
15-1243	Database Architects	Above Middle-Skill	5	403	7%	34	\$50.08	1	0	88.1
27-4021	Photographers	Middle-Skill	4	2,262	13%	270	\$14.96	0	0	92.2
27-2099	Entertainers and Performers, Sports and Related Workers, All Other	Below Middle-Skill	4	624	13%	91	\$18.18	0	0	91.6
27-3099	Media and Communication Workers, All Other	Below Middle-Skill	4	704	1%	66	\$22.15	0	0	92.8
27-2041	Music Directors and Composers	Above Middle-Skill	4	587	5%	64	\$23.58	0	0	76.4
27-4015	Lighting Technicians	Below Middle-Skill	4	270	12%	34	\$24.08	0	0	96.1
15-1221	Computer and Information Research Scientists	Above Middle-Skill	4	250	11%	24	\$60.93	0	0	78.5
17-1021	Cartographers and Photogrammetrists	Above Middle-Skill	4	76	8%	7	\$34.46	0	0	94.2
Total			-	81,479	6%	7,392	\$37.82			

Information and Communication Technologies (ICT)/Digital Media Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Information and Communication Technologies (ICT)/Digital Media** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- White males, 35 to 49 years, are the predominant demographic characteristics for the **Information and Communication Technologies (ICT)/Digital Media** sector.

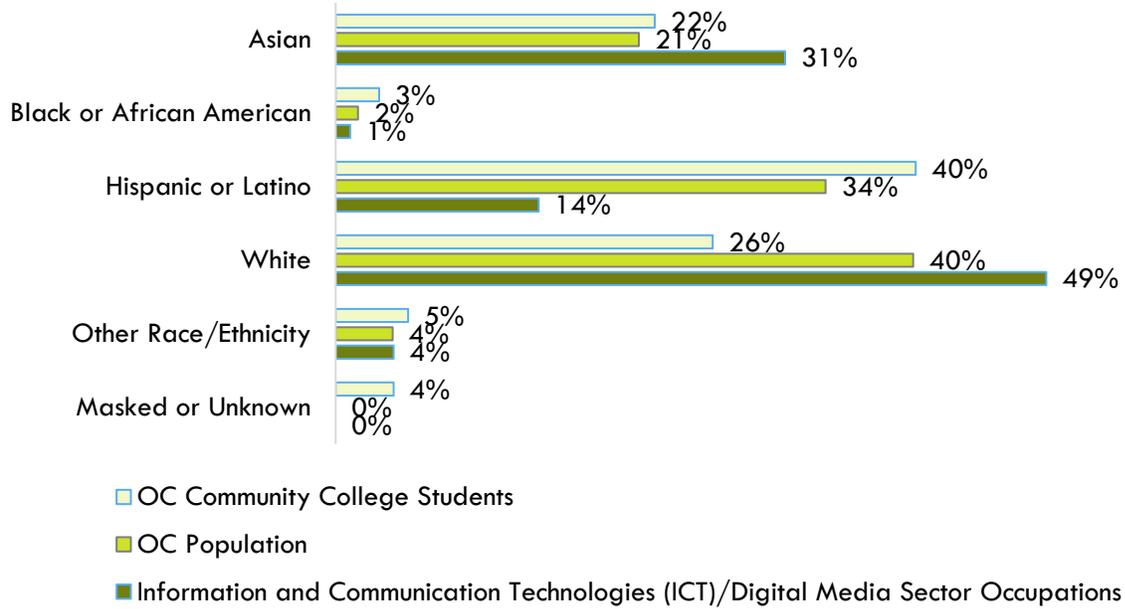
Ethnicity

Following are notable observations of the **Information and Communication Technologies (ICT) and Digital Media** sector by ethnicity:

- The plurality of **ICT and Digital Media** workers are white (49%), followed by Asian workers (31%).
 - 31% of workers are Asian, which is higher than the population (21%) and community college students (22%).
- Only 26% of community college students are white, which is significantly lower than the population (40%) and workers (49%) in this sector.
- 40% of community college students are Hispanic or Latino, which is higher than the Orange County population (34%) and much higher than workers in this sector (14%).
- Asian workers make up the plurality in six occupations, all of which are above middle-skill.
- Hispanic or Latino workers make up the plurality in one occupation, *Media and Communication Workers, All Other (SOC 27-3099)*, a below middle-skill occupation.
- Of the 18 above middle-skill occupations, white workers are the plurality in 12 and Asian workers in 6.

Exhibit 48 shows the breakdown of ethnicity in the *Information and Communication Technologies (ICT) and Digital Media* sector.

Exhibit 48: Information and Communication Technologies (ICT)/Digital Media Demographics by Ethnicity



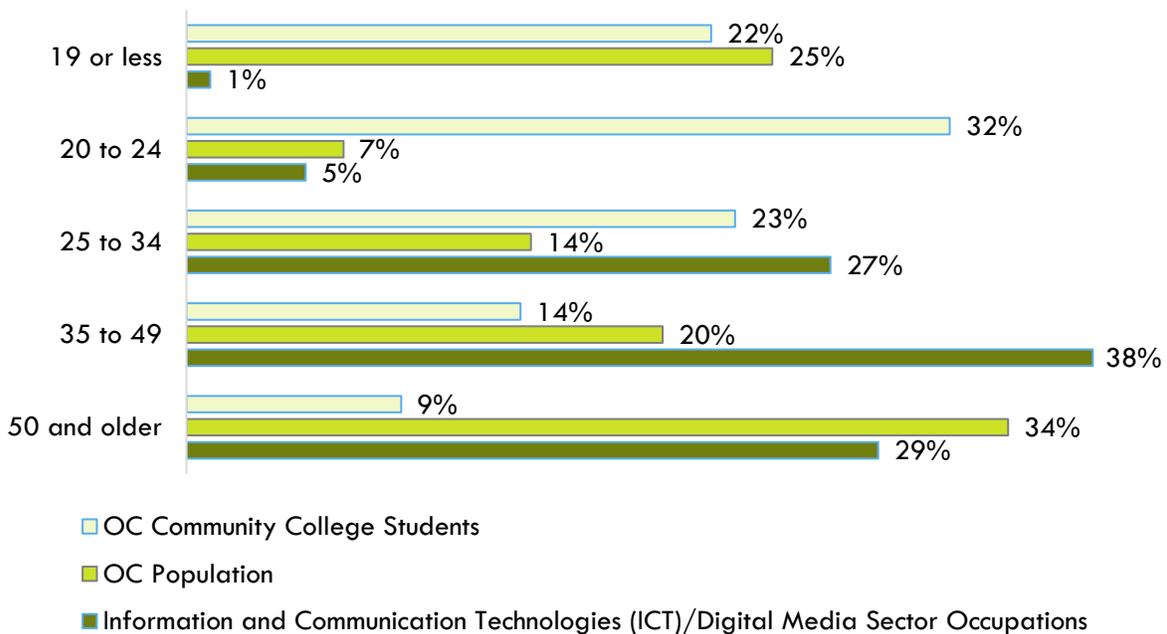
Age Group

Following are notable observations of the **Information and Communication Technologies (ICT) and Digital Media** sector by age:

- 29% of workers are 50 and older, which is lower than the OC population (34%) and significantly higher than community college students (9%).
 - This sector has the third-lowest percentage of workers 50 and older when compared to all sectors.
- Only 6% of workers in these occupations are 24 or less, which is lower than the population (32%), and community college **ICT and Digital Media** students (54%).
- The largest deviation is the 35-49 age group with 38% of workers in this sector, which is 18% higher than the OC population (20%), and 24% higher than community college students (14%).
- Disaggregated data shows that the 50 and older group holds a plurality in 11 of the 18 above middle-skill occupations, followed by the 40-49 age group which holds the plurality in the remaining 8 above middle-skill occupations.

Exhibit 49 shows the breakdown of age in the **Information and Communication Technologies (ICT) and Digital Media** sector.

Exhibit 49: Information and Communication Technologies (ICT)/Digital Media Demographics by Age



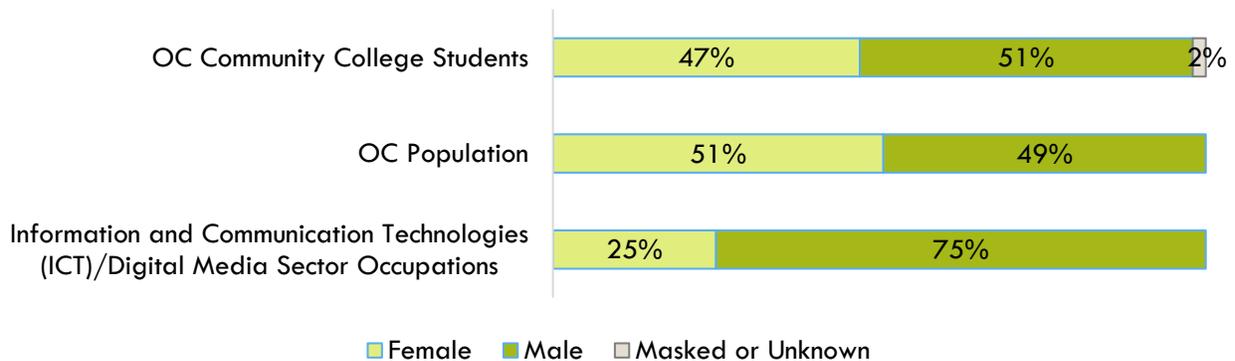
Sex

Following are notable observations of the **Information and Communication Technologies (ICT) and Digital Media** sector by sex:

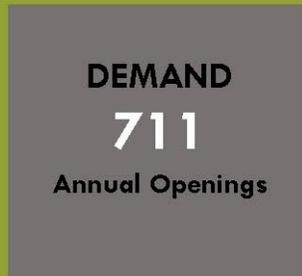
- 75% of workers in **ICT and Digital Media** occupations are men, which is significantly higher than the 51% of community college students that are men.
- 15 out of 30 occupations are made up of 80% or more male workers.
- All 18 above middle-skill occupations are made up of 50% or more male workers.
- One occupation, *Entertainers and Performers, Sports and Related Workers, All Other (SOC 27-2099)*, is the occupation with the largest female worker representation at 55%.

Exhibit 50 shows the breakdown of sex in the **Information and Communication Technologies (ICT) and Digital Media** sector.

Exhibit 50: Information and Communication Technologies (ICT)/Digital Media Demographics by Sex



LIFE SCIENCES AND BIOTECHNOLOGY



6,500
Jobs in 2022

11%
Projected Growth

711
Annual Openings

\$24.61
Entry-Level Hourly Wage

60%
Middle-Skill



40%
Above
Middle-Skill

2 of 5
Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

2 of 5
U.S. News & World
Report 2023 Best
Job

94.0
Lightcast's
Automation Index

Did you know:

- **87%** of annual jobs are for middle-skill occupations, including two occupations that are considered **Great Recession, COVID-19 Pandemic, or Overall Resilient**
- This sector includes the fewest number of occupations analyzed
- Asian males, 25 to 34 years and 50 and older (both groups account for **29%** of workers each), are the predominant demographic characteristics for this sector

Life Sciences and Biotechnology Occupational Criteria Data

The **Life Sciences and Biotechnology** occupational sector is relatively small and includes lab technicians, medical equipment repairers, biological engineers, and scientists. Workers in these occupations often work in laboratories but may also work in production facilities. **Life Sciences and Biotechnology** is also at the cutting edge of innovating medical and biological research that aims to improve human health.

Below are notable data points for the **Life Sciences and Biotechnology** sector.

- This sector includes the fewest number of occupations analyzed.
- Of the 5 occupations, 2 are above middle-skill and 3 are middle-skill.
- 87% of annual jobs are for middle-skill occupations, including two occupations that are considered Great Recession, COVID-19 Pandemic, or Overall Resilient.
- 3 occupations meet the annual openings criteria – notably all are middle-skill.
- 2 occupations are listed as a U.S. News & World 2023 Best Job – 1 above middle-skill and 1 middle-skill occupation.
- 2 occupations (*Bioengineers and Biomedical Engineers* (SOC 17-2031) and *Biological Scientists, All Other* (SOC 19-1029) meet both the California Insight's Living Wage and the MIT Living Wage.
- *Clinical Laboratory Technologists and Technicians* (SOC 29-2018) will grow the most over the next five years (15%) and has the most annual openings (368).
- *Medical Equipment Repairers* (SOC 49-9062), a middle-skill occupation, is at the highest risk of automation.

Exhibit 51 shows the five occupations analyzed in the **Life Sciences and Biotechnology** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 51: Life Sciences and Biotechnology Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
29-2018	Clinical Laboratory Technologists and Technicians	Middle-Skill	6	3,512	15%	368	\$23.26	0	1	97.9
49-9062	Medical Equipment Repairers	Middle-Skill	5	868	8%	108	\$23.02	1	0	102
17-2031	Bioengineers and Biomedical Engineers	Above Middle-Skill	5	405	8%	30	\$40.23	0	1	81.6
19-4099	Life, Physical, and Social Science Technicians, All Other	Middle-Skill	4	1,067	4%	142	\$20.41	1	0	86.8
19-1029	Biological Scientists, All Other	Above Middle-Skill	4	648	5%	63	\$31.24	0	0	82.2
Total			-	6,500	11%	711	\$24.61			

Life Sciences and Biotechnology Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Life Sciences and Biotechnology** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- Asian males, 25 to 34 years and 50 and older (both groups account for 29% of workers each), are the predominant demographic characteristics for the **Life Sciences and Biotechnology** sector.

Ethnicity

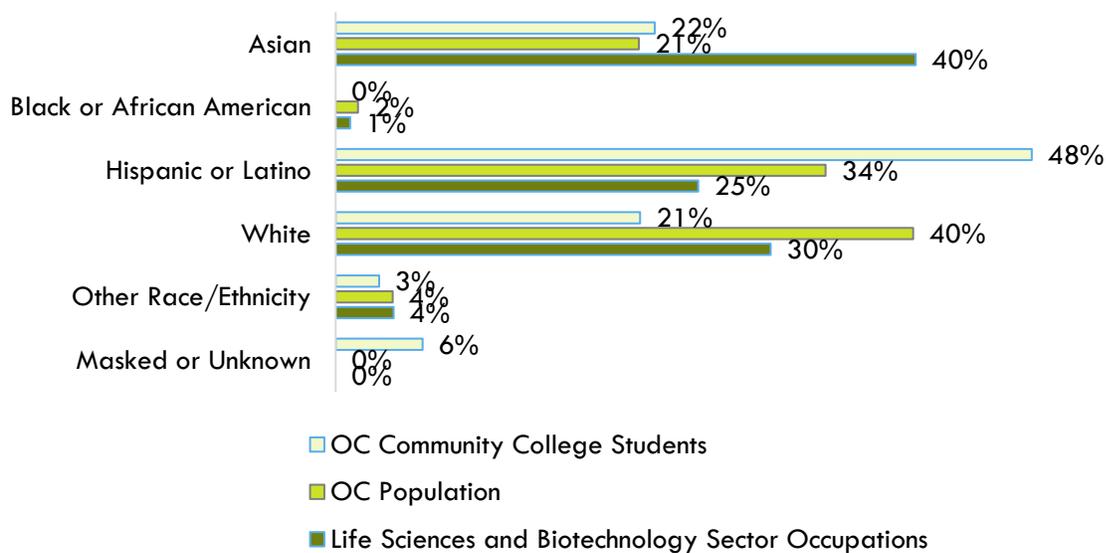
Following are notable observations of the **Life Sciences and Biotechnology** sector by ethnicity:

Exhibit 52 shows the race/ethnicity of Orange County community college students enrolled in **Life Sciences and Biotechnology** programs compared to the overall Orange County population, as well as the 5 occupations included in this report.

- The plurality of workers are Asian (40%), followed by white workers (30%).
- There is a higher percentage of Hispanic or Latino students (48%) than workers in the sector (25%) – a deviation of 23%.
- There is a higher percentage of Asian workers (40%) than students (22%) – a deviation of 18%.
- White workers make up the majority in 2 occupations (above middle-skill), Asian workers in 2 occupations (middle-skill), and Hispanic or Latino in 1 occupation (middle-skill).
- *Bioengineers and Biomedical Engineers*, an above middle-skill occupation, has no Black or African American or Hispanic or Latino representation; 52% of workers in this occupation are white and 48% are Asian.

Exhibit 52 shows the breakdown of ethnicity in the **Life Sciences and Biotechnology** sector.

Exhibit 52: Life Sciences and Biotechnology Demographics by Ethnicity



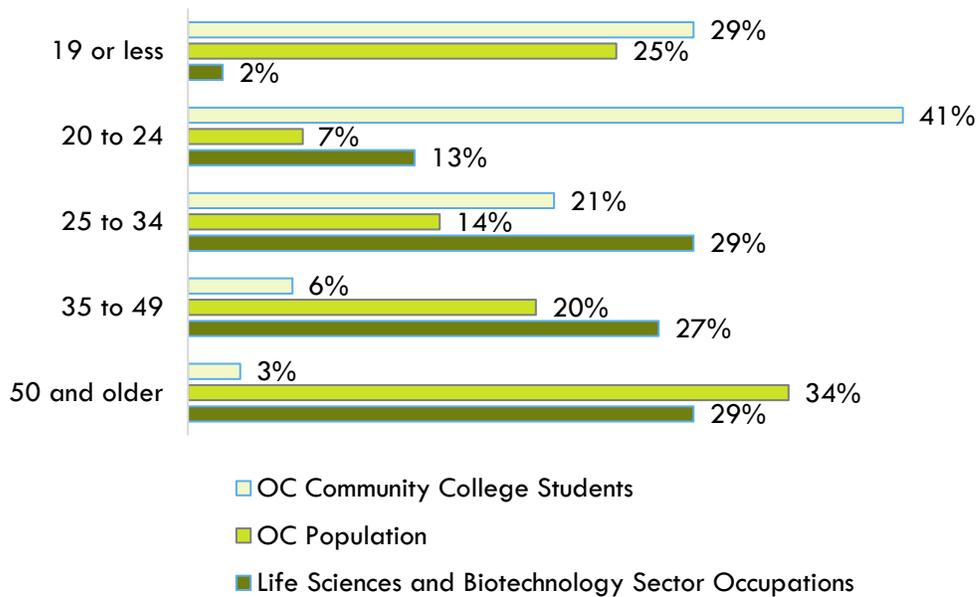
Age Group

Following are notable observations of the **Life Sciences and Biotechnology** sector by age:

- 70% of community college students are age 24 or less, which is significantly higher than both the population (32%), and **Life Sciences and Biotechnology** workers (15%).
- 29% of workers are 25 to 34 and another 29% are 50 and older.
- There are significantly more 20 to 24 year community college students (41%) than workers in these occupations (15%) and the OC population (7%).
- 27% of workers in these occupations are 35 to 49, which is higher than the population (20%) and community college students (6%).
- Only one occupation, *Medical Equipment Repairers* (SOC 49-9062), has a majority of workers (52%) that are 50 and older.
- 45% of *Bioengineers and Biomedical Engineers* (SOC 17-2031) are 35 to 49, which is significantly higher than the other **Life Sciences and Biotechnology** occupations.

Exhibit 53 shows the breakdown of age in the **Life Sciences and Biotechnology** sector.

Exhibit 53: Life Sciences and Biotechnology Demographics by Age



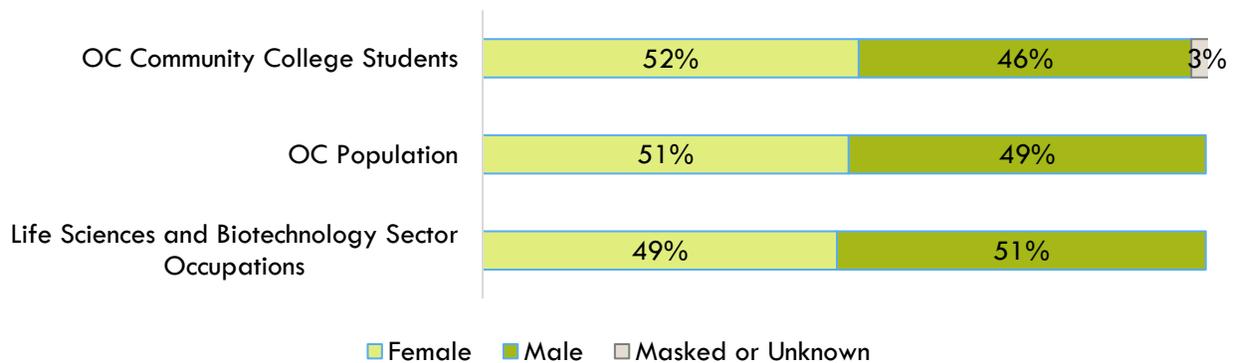
Sex

Following are notable observations of the **Life Sciences and Biotechnology** sector by sex:

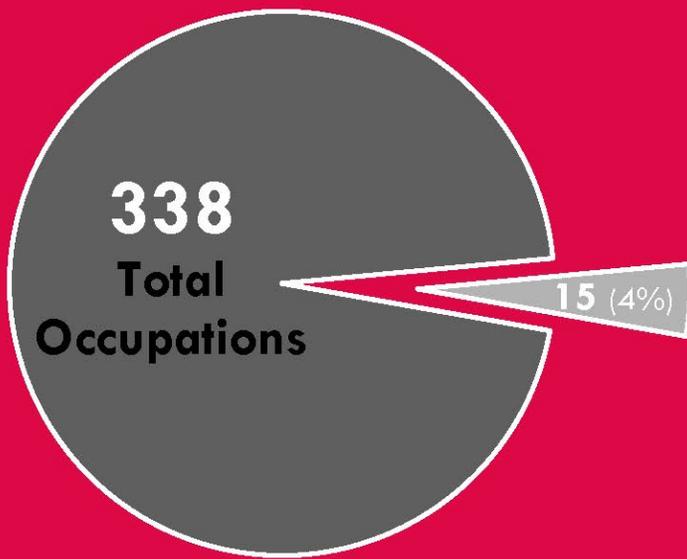
- The Orange County population, community college students, and workers in this sector are split nearly evenly between male and female workers.
- Female workers make up the majority in 2 occupations – *Biological Scientists, All Other* (SOC 19-1029) and *Clinical Laboratory Technologists and Technicians* (SOC 29-2018).
- Male workers make up the majority in 3 occupations – *Bioengineers and Biomedical Engineers* (SOC 17-2031); *Life, Physical, and Social Science Technicians, All Other* (SOC 19-4099); and *Medical Equipment Repairers* (SOC 49-9062).

Exhibit 54 shows the breakdown of sex in the **Life Sciences and Biotechnology** sector.

Exhibit 54: Life Sciences and Biotechnology Demographics by Sex



PUBLIC SAFETY



15,799
Jobs in 2022

8%
Projected Growth

2,604
Annual Openings

\$29.67
Entry-Level Hourly Wage

67%
Middle-Skill



20%
Below
Middle-Skill

13%
Above
Middle-Skill

2 of 15
Great Recession,
COVID-19 Pandemic,
or Overall Resilient

2 of 15
U.S. News & World
Report 2023 Best
Job

92.2
Lightcast's
Automation Index

Did you know:

- Below middle-skill occupations account for 60% of average annual openings, despite being just 20% of the number of occupations in *Public Safety*
- None of the 15 occupations in this sector meet all 8 criteria; 6 is the most points earned by any occupation
- White males, 35 to 49 years, are the predominant demographic characteristics for this sector

Public Safety Occupational Criteria Data

The **Public Safety** occupational sector includes a variety of roles, such as police, firefighters, emergency management specialists, lifeguards, and more. Workers in these occupations are dedicated to the preservation of public safety and work in correctional facilities, police and fire stations, and on-site at crime scenes or fire incidents. **Public Safety** workers are often required to attend specific academies or other training facilities to demonstrate proficiency and may be required to pass an exam before they are eligible to be hired.

Below are notable data points for the **Public Safety** sector.

- Of the 15 occupations, 2 are above middle-skill, 10 are middle-skill, and 3 are below middle-skill.
- None of the 15 occupations in this sector meet all 8 criteria; the most points earned by any occupation is 6.
- Below middle-skill occupations account for 60% of average annual openings, despite being just 20% of the number of occupations.
- 7 occupations meet the annual openings criteria – 3 each are middle-skill and below middle-skill.
- 2 of the occupations are listed as a U.S. News & World 2023 Best Job.
- 12 occupations meet both the California Insight's Living Wage and the MIT Living Wage.
- *Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers* (SOC 33-9092) will grow the most over the next five years (23%) (and has the second most annual openings (552) after Protective Service Workers, All Other (SOC 33-9099).

Exhibit 55 shows the 15 occupations analyzed in the **Public Safety** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 55: Public Safety Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
33-3051	Police and Sheriff's Patrol Officers	Middle-Skill	6	5,020	6%	482	\$38.59	0	1	94.5
33-2011	Firefighters	Middle-Skill	6	1,416	8%	139	\$30.68	0	1	100.6
33-3012	Correctional Officers and Jailers	Middle-Skill	6	894	2%	88	\$28.36	1	0	90.5
33-1012	First-Line Supervisors of Police and Detectives	Middle-Skill	6	693	7%	57	\$59.98	1	0	84.5
21-1092	Probation Officers and Correctional Treatment Specialists	Above Middle-Skill	5	1,058	5%	102	\$36.09	0	0	78.2
33-9099	Protective Service Workers, All Other	Below Middle-Skill	4	3,026	7%	859	\$14.81	0	0	91.2
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	Below Middle-Skill	4	1,644	23%	552	\$14.46	0	0	93.3
33-9091	Crossing Guards and Flaggers	Below Middle-Skill	4	685	8%	164	\$15.74	0	0	99.4
43-5031	Public Safety Telecommunicators	Middle-Skill	4	437	9%	55	\$27.58	0	0	90.6
19-4092	Forensic Science Technicians	Middle-Skill	4	232	10%	34	\$34.73	0	0	94.2
33-1021	First-Line Supervisors of Firefighting and Prevention Workers	Middle-Skill	4	352	8%	32	\$46.06	0	0	79.6
33-1099	First-Line Supervisors of Protective Service Workers, All Other	Middle-Skill	4	236	9%	28	\$27.84	0	0	90.3
33-1011	First-Line Supervisors of Correctional Officers	Middle-Skill	4	49	13%	6	\$43.29	0	0	89.6
11-9161	Emergency Management Directors	Above Middle-Skill	4	38	10%	4	\$44.31	0	0	84.6
33-2022	Forest Fire Inspectors and Prevention Specialists	Middle-Skill	4	19	17%	2	\$25.46	0	0	96
Total			-	23,991	3%	2,152	\$32.44			

Public Safety Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Public Safety** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- White males, 35 to 49 years, are the predominant demographic characteristics for the **Public Safety** sector.

Ethnicity

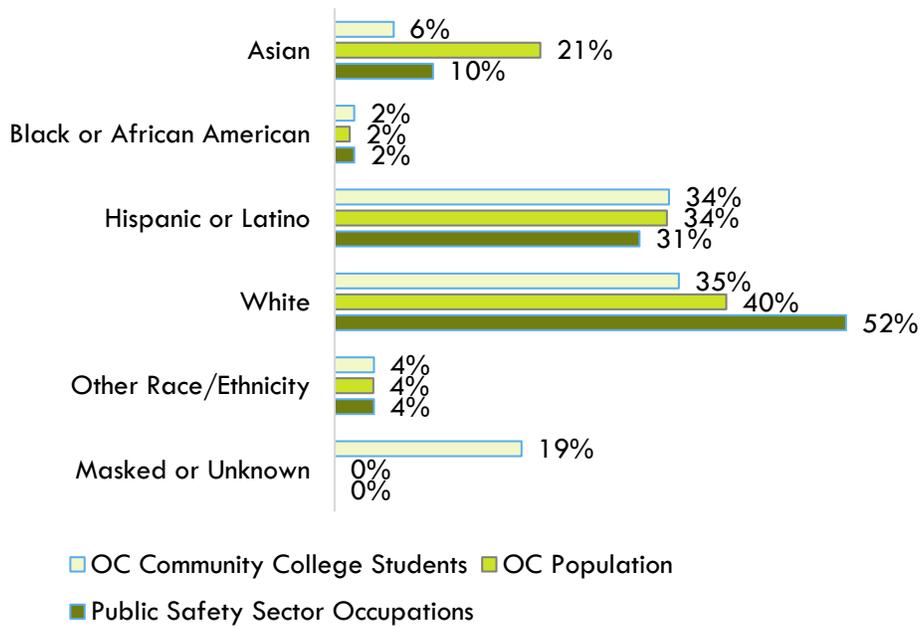
Following are notable observations of the **Public Safety** sector by ethnicity:

Exhibit 56 shows the ethnicity of Orange County community college students in **Public Safety** programs compared to the overall Orange County population, as well as the 15 **Public Safety** occupations included in this report.

- The majority of workers are white (52%), followed by Hispanic or Latino workers (31%).
- 10% of workers are Asian, which is lower than the population (21%), but slightly higher than community college students (6%).
- There is a higher percentage of white workers (52%) than students in community college public safety program (35%) – a deviation of 17%.
- Asian workers make up the plurality of *Forensic Science Technicians (SOC 19-4092)*, a middle-skill occupation.
- Other Race/Ethnicity workers account for 69% of *Emergency Management Directors (SOC 11-9161)*, an above middle-skill occupation.
- Of the 10 middle-skill occupations, white workers are the plurality in 6, Hispanic and Latino in 3, and Asian workers in 1.
- 58% of *First-Line Supervisors of Correctional Officers (SOC 33-1011)* are Black or African American.
- Hispanic workers hold 50% or more of jobs in 4 occupations.
- White workers hold 50% or more of jobs in 8 occupations, 6 of which are middle-skill.

Exhibit 56 shows the breakdown of ethnicity in the **Public Safety** sector.

Exhibit 56: Public Safety Demographics by Ethnicity

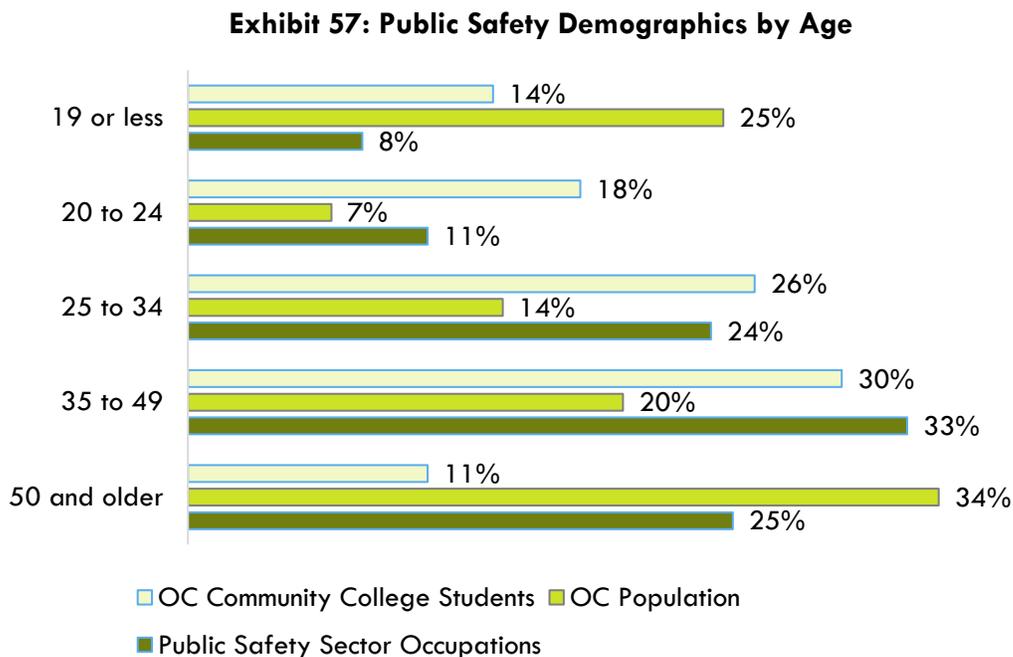


Age Group

Following are notable observations of the **Public Safety** sector by age:

- 25% of workers are 50 and older, which is lower than the OC population (34%) and significantly higher than community college **Public Safety** students (11%).
- 19% of workers in these occupations are 24 or less, which is lower than the population (32%), and community college **Public Safety** students (32%).
- The 35-49 age group holds the highest percentage in OC community college students (30%) and the workforce (33%) but is only 20% of the OC population.
- Only three occupations have workers that are 19 or less.
 - 55% of *Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers* (SOC 33-9092) and *Protective Service Workers, All Other* (SOC 33-9099), both of which are below-middle skill, are 19 or less.
 - 8% of *Forensic Science Technicians* (SOC 19-4092) are 19 or less
- Of the 15 **Public Safety** occupations, workers 50 or older hold a majority in 5 occupations – 1 above middle-skill, 3 middle-skill and 1 below middle-skill.

Exhibit 57 shows the breakdown of age in the **Public Safety** sector.



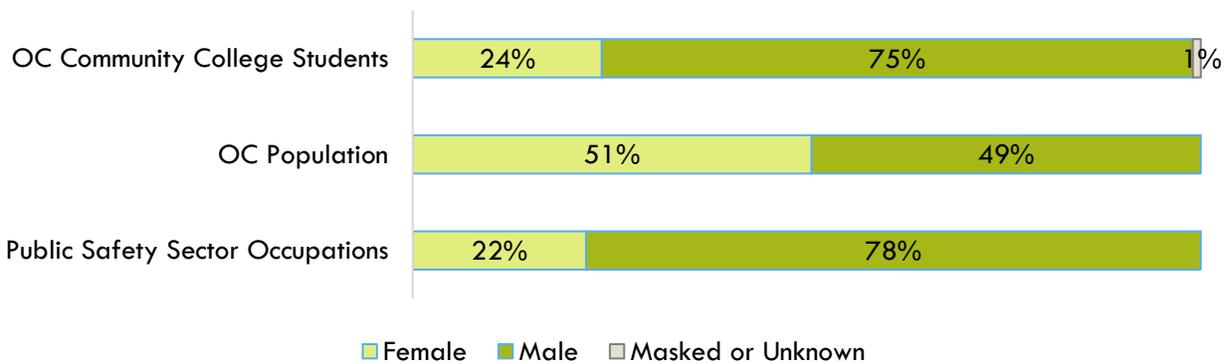
Sex

Following are notable observations of the **Public Safety** sector by sex:

- 78% of workers in these **Public Safety** occupations are men, which is aligned to community college **Public Safety** students (75%).
- Five out of 15 occupations are made up of 90% or more male workers, 4 of which are middle-skill and one above middle-skill.
- *First-Line Supervisors of Firefighting and Prevention Workers (SOC 33-1021)*, a middle-skill occupation, and *Emergency Management Directors (SOC 11-9161)*, an above middle-skill occupation, are the two occupations with 100% male worker representation.

Exhibit 58 shows the breakdown of sex in the **Public Safety** sector.

Exhibit 58: Public Safety Demographics by Sex



RETAIL, HOSPITALITY, AND TOURISM



32,193
Jobs in 2022

19%
Projected Growth

6,393
Annual Openings

\$17.41
Entry-Level Hourly Wage



0 of 14
Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

2 of 14
U.S. News & World
Report 2023 Best
Job

105.7
Lightcast's
Automation Index

Did you know:

- None of the 14 occupations in this sector meet all 8 criteria; 5 is the most points earned by any occupation
- *Cooks, Restaurant* (SOC 35-2014) has the most average annual openings (3,294), the second highest growth projections (27%), and is the only occupation at an elevated risk for automation in this sector
- Hispanic or Latino males, 35 to 49 years, are the predominant demographic characteristics for this sector

Retail, Hospitality, and Tourism Occupational Criteria Data

The **Retail, Hospitality, and Tourism** occupational sector includes a variety of roles such as retail salespersons, chefs, cooks, waiters and waitresses, concierges, and more. Workers in these occupations often work in shopping centers, restaurants and other food serving establishments, or lodging facilities. **Retail, Hospitality, and Tourism** roles typically require face-to-face interaction and require a high degree of customer service.

Below are notable data points for the **Retail, Hospitality, and Tourism** sector.

- Of the 14 occupations, 4 are above middle-skill, 7 are middle-skill and 3 are below middle-skill.
- None of the 14 occupations in this sector meet all 8 criteria; the most points earned by any occupation is 5.
- All but one occupation, *Gambling Managers* (SOC 11-9071), meet the annual openings criteria.
- 2 of the occupations are listed as a U.S. News & World 2023 Best Job.
- 3 occupations meet both the California Insight's Living Wage and the MIT Living Wage and two occupations do not the MIT living wage.
- None of the occupations meet criteria to be considered Great Recession, COVID-19 Pandemic, or Overall Resilient, this is the only sector without at least 1 occupation that meets this criterion.
- *Gambling Managers* (SOC 11-9071) will grow the most (42%) over the next five years yet is the occupation with the fewest annual openings (8).
- *Cooks, Restaurant* (SOC 35-2014) has the most average annual openings (3,294), the second highest growth projections (27%), and is the only occupation at an elevated risk for automation.

Exhibit 59 shows the 11 occupations analyzed in the **Retail, Hospitality and Tourism** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 59: Retail, Hospitality, and Tourism Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 – 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
39-9032	Recreation Workers	Below Middle-Skill	5	4,519	14%	1,091	\$14.82	0	1	88
35-1011	Chefs and Head Cooks	Middle-Skill	5	1,987	14%	340	\$22.49	0	0	93.2
27-1025	Interior Designers	Above Middle-Skill	5	1,551	3%	145	\$24.82	0	0	82.9
11-9072	Entertainment and Recreation Managers, Except Gambling	Above Middle-Skill	5	938	13%	135	\$22.18	0	0	84.5
27-1022	Fashion Designers	Above Middle-Skill	5	1,072	(1%)	106	\$28.68	0	0	82.6
35-2014	Cooks, Restaurant	Below Middle-Skill	4	14,660	27%	3,294	\$15.87	0	1	125
39-1014	First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services	Middle-Skill	4	1,583	21%	281	\$16.04	0	0	91.4
39-9099	Personal Care and Service Workers, All Other	Below Middle-Skill	4	1,172	17%	255	\$14.13	0	0	91.8
13-1121	Meeting, Convention, and Event Planners	Above Middle-Skill	4	1,462	13%	196	\$19.83	0	0	90.5
39-1022	First-Line Supervisors of Personal Service Workers	Middle-Skill	4	981	19%	177	\$17.25	0	0	91.4
39-7018	Tour and Travel Guides	Middle-Skill	4	654	7%	141	\$14.61	0	0	96.4
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	Middle-Skill	4	948	7%	130	\$15.60	0	0	94.4
11-9081	Lodging Managers	Middle-Skill	4	627	14%	94	\$19.80	0	0	97.3
11-9071	Gambling Managers	Middle-Skill	4	39	42%	8	\$40.72	0	0	93
Total			-	32,193	19%	6,393	\$17.41	-	-	-

Retail, Hospitality, and Tourism Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Retail, Hospitality, and Tourism** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- Hispanic or Latino males, 35 to 49 years, are the predominant demographic characteristics for **Retail, Hospitality, and Tourism** sector.

Ethnicity

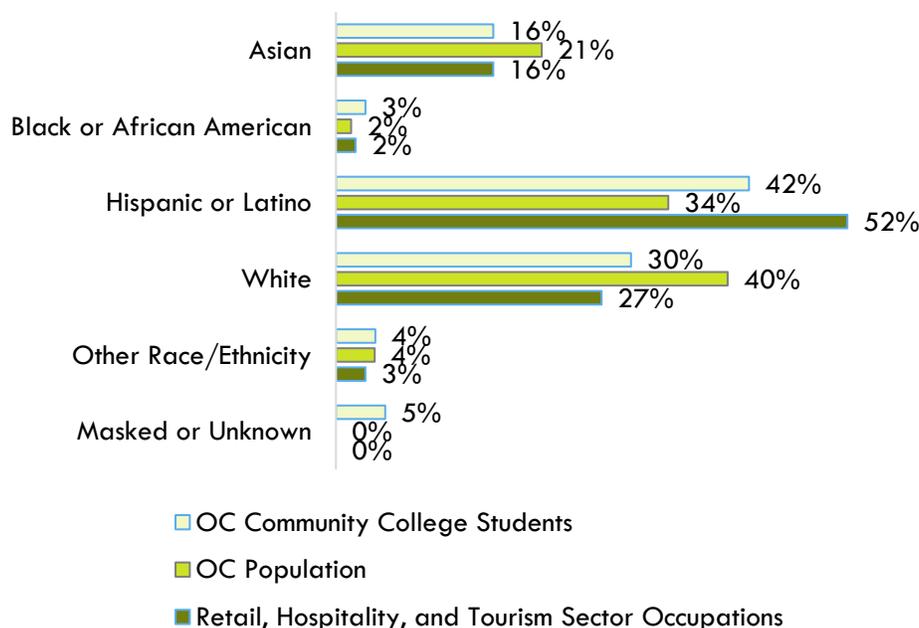
Following are notable observations of the **Retail, Hospitality, and Tourism** sector by ethnicity:

Exhibit 60 shows the ethnicity of Orange County community college students in **Retail, Hospitality and Tourism** programs compared to the overall Orange County population, as well as the 14 **Retail, Hospitality and Tourism** occupations included in this report.

- The majority of **Retail, Hospitality and Tourism** workers are Hispanic or Latino (52%), followed by white workers (27%).
 - 42% of community college students are Hispanic or Latino, which is higher than the population (34%).
- White workers make up the plurality in the 4 above middle-skill occupations, 4 of the 7 middle-skill occupations, and 2 of 3 below middle-skill occupations.
- Hispanic workers occupy 75% of jobs in the *Cooks, Restaurant (SOC 35-2014)* occupation, a below middle-skill occupation.

Exhibit 60 shows the breakdown of ethnicity in the **Retail, Hospitality, and Tourism** sector.

Exhibit 60: Retail, Hospitality, and Tourism Demographics by Ethnicity

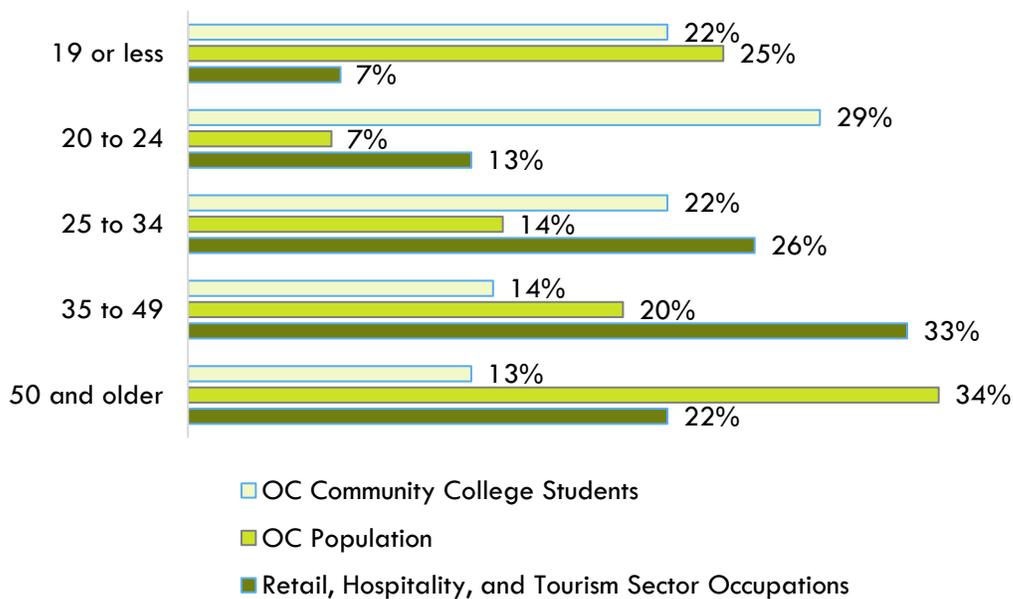


Age Group

Following are notable observations of the **Retail, Hospitality, and Tourism** sector by age:

- 33% of workers are 35-49, which is higher than the OC population (20%) and significantly higher than community college students (14%).
- 20% of workers in these occupations are 24 or less, which is lower than the population (32%), and community college **Retail, Hospitality and Tourism** students (51%).
 - This sector has the highest percentage of workers that are 24 or less when compared to all sectors.
- The 50 and older age group hold at least 30% of jobs in 5 occupations, 3 of which are above middle-skill.
- The 20-24 age group hold at least 30% for 2 occupations despite being just 7% of the OC population.

Exhibit 61: Retail, Hospitality, and Tourism Demographics by Age



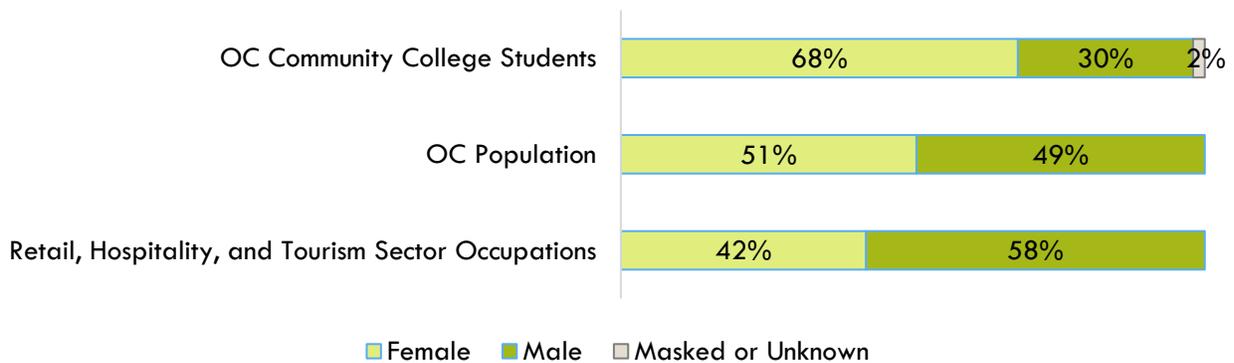
Sex

Following are notable observations of the **Retail, Hospitality, and Tourism** sector by sex:

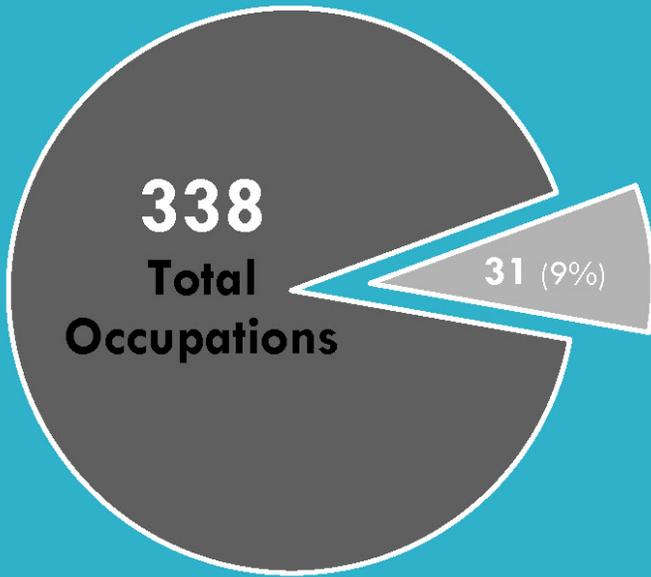
- 58% of workers in this sector are men while just 30% of community college **Retail, Hospitality and Tourism** students are men, a 28% difference.
- Conversely, there are significantly more female community college students (68%) in this sector than in the 14 occupations analyzed (42%).
- *Chefs and Head Cooks (SOC 35-1011)*, a middle-skill occupation, is made up of 80% male workers.
- *Interior Designers (SOC 27-1025)*, an above middle-skill occupation, is made up of 81% female workers.
- Female workers occupy 50% or more of jobs in 10 of the 14 occupations within this sector.

Exhibit 62 shows the breakdown of sex in the **Retail, Hospitality, and Tourism** sector.

Exhibit 62: Retail, Hospitality, and Tourism Demographics by Sex



OTHER

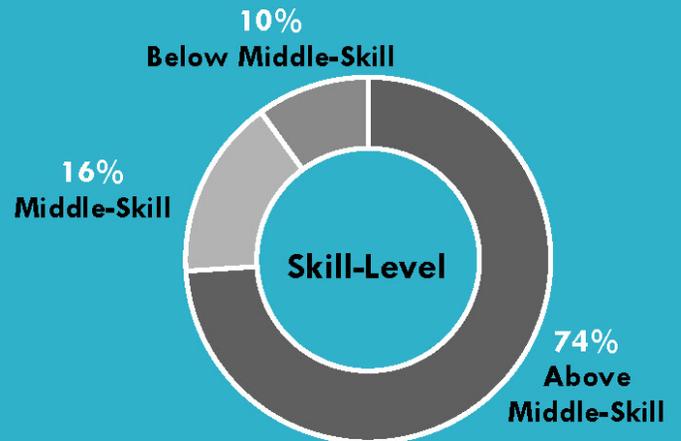


48,261
Jobs in 2022

9%
Projected Growth

5,407
Annual Openings

\$32.03
Entry-Level Hourly Wage



6 of 31
Great Recession,
COVID-19 Pandemic,
or Overall Resilient
Jobs

6 of 31
U.S. News & World
Report 2023 Best
Job

85.1
Lightcast's
Automation Index

Did you know:

- **59%** of annual job openings in this sector are attributed to **23** above middle-skill occupations
- The **15** occupations that meet the annual openings criteria account for **94%** of all annual openings in the *Other* sector
- **White males, 50 and older**, are the predominant demographic characteristics for the *Other* sector

Other Occupational Criteria Data

The **Other** occupational sector includes all other roles that cannot be categorized into the other 11 sectors. Some of these roles are religious in nature while others typically require advanced education. Additionally, some public administration occupations like court reporters, compliance officers, and eligibility interviewers for government programs, are included in this sector.

Below are notable data points for the **Other** sector.

- Of the 31 occupations, 23 are above middle-skill, 5 are middle-skill and 3 are below middle-skill.
- 59% of annual job openings in this sector are attributed to 23 above middle-skill occupations.
- The 15 occupations that meet the annual openings criteria account for 94% of all annual openings in this sector; of which 10 occupations are above middle-skill and account for 54% of the total annual openings.
- 6 occupations are listed as a U.S. News & World 2023 Best Job.
- 23 occupations meet both the California Insight's Living Wage and the MIT Living Wage while 4 occupations do not meet the MIT Living Wage.
- *Mathematical Science Occupations, All Other*, (SOC 15-2099), tied for the highest growth rate (23%) (over the next five years is also in a three-way tie for the smallest number of annual openings (1).
- *Lawyers* (SOC 23-1011) is the only occupation in this sector to meet all 8 criteria.
- *Paralegals and Legal Assistants* (SOC 23-2011) (middle-skill) and *Clergy* (SOC 21-2011) (above middle-skill) meet 7 of the 8 criteria.

Exhibit 63 shows the 31 occupations analyzed in the **Other** sector, the occupational skill level, the criteria met, and the data associated with each criterion. A shaded cell denotes which criteria was met. Lighter shaded cells mean California Insight's Living Wage was met, but the MIT Living Wage was not for the hourly earnings criteria.

Exhibit 63: Other Occupational Criteria Data

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
23-1011	Lawyers	Above Middle-Skill	8	12,715	9%	855	\$48.58	1	1	81.1
23-2011	Paralegals and Legal Assistants	Middle-Skill	7	4,124	13%	582	\$25.27	0	1	89.4
21-2011	Clergy	Above Middle-Skill	7	2,213	7%	240	\$27.70	1	0	75.3
13-1041	Compliance Officers	Above Middle-Skill	6	4,532	4%	398	\$28.78	1	0	86.1
43-4061	Eligibility Interviewers, Government Programs	Below Middle-Skill	5	2,870	4%	313	\$22.85	1	0	99.4
17-2199	Engineers, All Other	Above Middle-Skill	5	3,078	1%	206	\$39.07	0	0	88.2
27-3041	Editors	Above Middle-Skill	5	1,510	(6%)	150	\$25.64	0	0	89.9
27-3091	Interpreters and Translators	Middle-Skill	5	948	16%	135	\$20.09	1	0	95.6
19-2031	Chemists	Above Middle-Skill	5	1,040	5%	97	\$30.74	0	0	87.3
17-2011	Aerospace Engineers	Above Middle-Skill	5	1,246	0%	71	\$51.17	0	0	77.2
27-3042	Technical Writers	Above Middle-Skill	5	473	7%	50	\$33.33	0	1	93.9
19-1021	Biochemists and Biophysicists	Above Middle-Skill	5	242	8%	25	\$39.25	0	1	74.6
15-2041	Statisticians	Above Middle-Skill	5	217	17%	24	\$40.48	0	1	90.1
19-3094	Political Scientists	Above Middle-Skill	5	15	13%	2	\$29.58	0	1	89.2
39-9031	Exercise Trainers and Group Fitness Instructors	Middle-Skill	4	4,612	17%	1,046	\$15.29	0	0	84.4
27-2022	Coaches and Scouts	Above Middle-Skill	4	2,810	23%	533	\$15.30	0	0	79.7
21-2021	Directors, Religious Activities and Education	Above Middle-Skill	4	1,712	5%	202	\$23.63	0	0	84.7
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Above Middle-Skill	4	1,251	18%	188	\$6.21	0	0	89.2
43-4031	Court, Municipal, and License Clerks	Middle-Skill	4	568	8%	76	\$20.92	0	0	94.6
11-9121	Natural Sciences Managers	Above Middle-Skill	4	633	6%	60	\$61.22	0	0	76.8
19-4061	Social Science Research Assistants	Middle-Skill	4	390	7%	55	\$21.26	1	0	83.7
19-1022	Microbiologists	Above Middle-Skill	4	204	8%	21	\$32.52	0	0	92.3

SOC	Occupation	Skill Level	Points	2022 Jobs	2022 - 2027 % Change	Avg. Annual Openings	Pct. 25 Hourly Earnings	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
19-3099	Social Scientists and Related Workers, All Other	Above Middle-Skill	4	164	7%	18	\$27.53	0	0	86.6
19-3011	Economists	Above Middle-Skill	4	148	8%	14	\$34.86	0	0	83.8
23-1022	Arbitrators, Mediators, and Conciliators	Above Middle-Skill	4	170	9%	11	\$38.16	0	0	87.8
19-2012	Physicists	Above Middle-Skill	4	85	10%	8	\$51.85	0	0	72.8
33-9011	Animal Control Workers	Below Middle-Skill	4	83	10%	8	\$24.76	0	0	92
23-1023	Judges, Magistrate Judges, and Magistrates	Above Middle-Skill	4	104	7%	7	\$53.02	0	0	88.6
19-2021	Atmospheric and Space Scientists	Above Middle-Skill	4	64	10%	6	\$28.00	0	0	83.2
53-6041	Traffic Technicians	Below Middle-Skill	4	30	10%	5	\$24.09	0	0	90.6
15-2099	Mathematical Science Occupations, All Other	Above Middle-Skill	4	10	23%	1	\$24.85	0	0	83.4
Total			-	48,261	9%	5,407	\$32.03	-	-	-

Other Demographics

In addition to the labor market information and criteria metrics, it is important to also look at the demographics of the **Other** sector. The demographics of those within the occupations are compared with those of the Orange County population and students enrolled in the TOP codes that crosswalk to the occupation for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

The following is a notable demographic finding for this sector:

- White males, 50 and older, are the predominant demographic characteristics for the **Other** sector.

Ethnicity

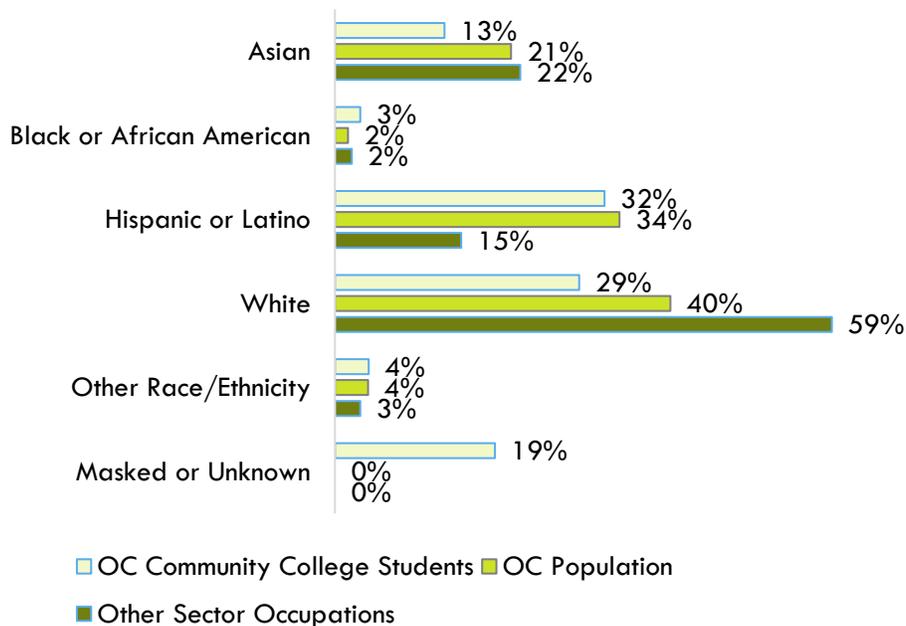
Following are notable observations of the **Other** sector by ethnicity:

Exhibit 64 shows the ethnicity of Orange County community college students in **Other/Unassigned** programs compared to the overall Orange County population, as well as the 31 **Other** occupations included in this report.

- The majority of **Other** workers are white (59%), followed by Asian workers (22%).
- The race/ethnicity of 19% of community college students is unknown.
- There are more Hispanic or Latino students (32%) than workers (15%) in these occupations - a deviation of 17%
- White workers make up the majority in 15 occupations, all of which are above middle-skill occupations.
- Of the three below middle-skill occupations, Hispanic or Latino workers are the plurality in two - *Animal Control Workers* (SOC 33-9011) and *Eligibility Interviewers, Government Programs* (SOC 43-4061) - and Asian workers in one, *Traffic Technicians* (SOC 53-6041).

Exhibit 64 shows the breakdown of ethnicity in the **Other** sector.

Exhibit 64: Other Demographics by Ethnicity



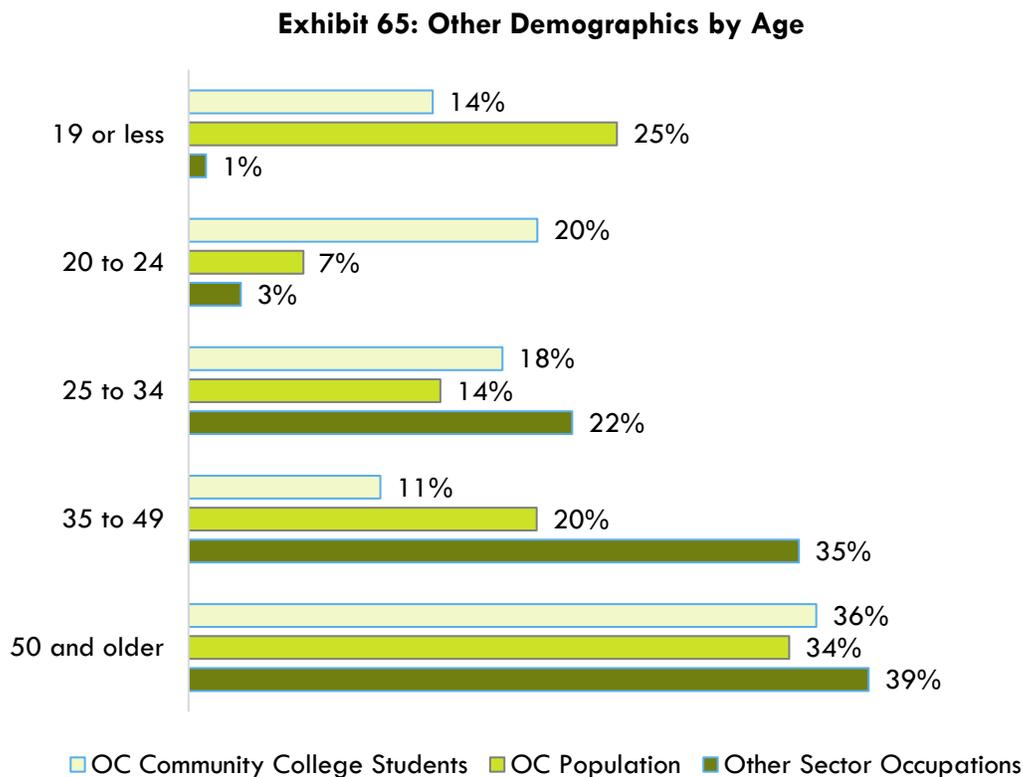
Age Group

Following are notable observations of the **Other** sector by age:

Exhibit 65 shows the age of Orange County community college students in **Other/Unassigned** programs compared to the overall Orange County population, as well as the 31 **Other** occupations included in this report.

- The plurality of workers are 50 and older (39%), followed by 35 to 49 (35%).
 - 35% of workers are 35 to 49, which is higher than the OC population (20%) and significantly higher than community college students (11%).
- The OC population, community college students, and workers within the 50 and older group are all within a narrow range of each other (34%, 36%, and 39%, respectively).
- Only 3% of workers in these occupations are 20 to 24, which is lower than the population (7%), and substantially lower than community college students (20%).
- The 50 and older workers are the plurality in 11 occupations; 35 to 49 are the plurality in 13 occupations.

Exhibit 65 shows the breakdown of age in the **Other** sector.



Sex

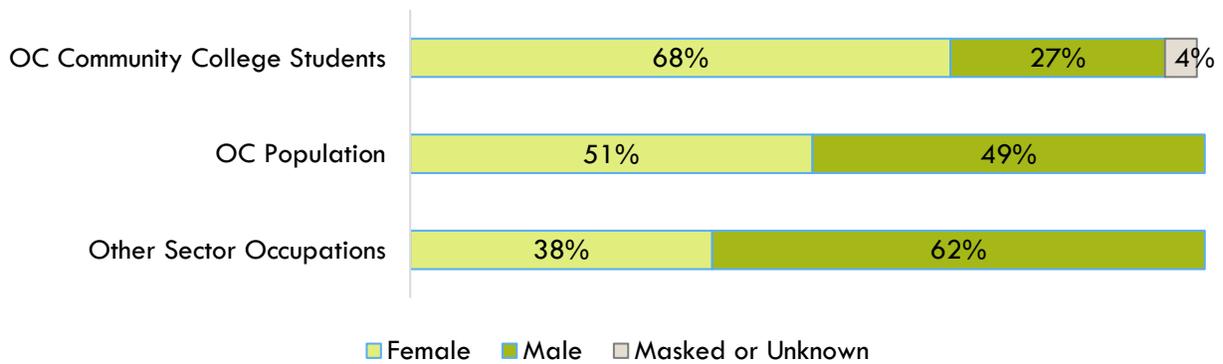
Following are notable observations of the **Other** sector by sex:

Exhibit 66 shows the sex of Orange County community college students in **Other** programs compared to the overall Orange County population, as well as the 31 **Other** occupations included in this report.

- 62% of workers in this sector are men while just 27% of community college students are men, a 35% difference.
- Conversely, there are significantly more female community college students (68%) in this sector than in the 31 occupations analyzed (38%).
- Male workers are the majority in 21 of the 31 occupations.
- Of the 23 above middle-skill occupations, male workers are the majority in 18.
- 100% of workers in these occupations are men: *Physicists* (SOC 19-2012), *Atmospheric and Space Scientists* (19-2021), and *Traffic Technicians* (SOC 53-6041).
- 81% of *Paralegals and Legal Assistants* (SOC 23-2011) are women.
- Only one occupation, *Compliance Officers* (SOC 13-1041) is evenly split.

Exhibit 66 shows the breakdown of sex in the **Other** sector.

Exhibit 66: Other Demographics by Sex



Appendix A: Methodology

Criteria and Points

The OC COE meticulously examined 796 occupation codes within the Bureau of Labor Statistics (BLS) Standard Occupational Classification (SOC) system. After removing 21 occupations that did not list any jobs in 2022, the OC COE analyzed 775 occupations.

To determine the occupations for analysis, the OC COE identified eight criteria to determine occupations that have significant employment and demand, pay at or above the living wage, were stable during the last two economic recession, are considered a Best Job by U.S. News & World Report, and have a lower-than-average risk of automation according to the Lightcast Automation Index. Occupations earned one point per criteria met or exceeded. The full list of criteria is listed in Exhibit 67 and the number of points earned by each occupation is listed in Appendix B.

Exhibit 67: Criteria Used to Evaluate Occupations

2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Lightcast's Automation Index
579	6.62%	63.5	\$20.63	\$23.66	Yes	Yes	100

The definitions for each criterion are as follows:

- 2022 Jobs – the number of jobs in 2022
- 2022-2027 % Change – the projected change in employment, expressed as a percentage. A positive percentage indicates employment is projected to increase, while a negative percentage indicates employment is projected to decrease.
- Avg. Annual Openings – the projected number of annual job openings from 2022 to 2027. This figure takes into account new job creation, as well as turnover due to retirements or workers leaving the field.
- Living Wage (Insight) – this figure “measures the floor income necessary for an individual or family to afford basic expenses.”¹² The California Insight Living Wage was last updated in 2021 and is currently \$20.63 for Orange County.
- Living Wage (MIT) – this figure “s what one full-time worker must earn on an hourly basis to help cover the cost of their family’s minimum basic needs where they live while still being self-sufficient.”¹³ The MIT Living Wage is updated annually and is currently \$23.66 for Orange County.
- Great Recession, COVID-19 Pandemic, or Overall Resilient – jobs that were considered resilient during the Great Recession, COVID-19 Pandemic Recession, or both recessions, based on criteria in the OC COE’s *Resilient Jobs and Jobs for Recovery* report, published in March 2023.¹⁴
- U.S. News & World Report 2023 Best Job - U.S. News considers several factors in its Best Jobs rankings, including projected growth, salary, stress level, and work-life balance.¹⁵

¹² "Family Needs Calculator," Insight Center, last modified May 20, 2021, <https://insightccd.org/family-needs-calculator/>.

¹³ "Living Wage Calculator," Living Wage Calculator, accessed November 15, 2023, <https://livingwage.mit.edu/pages/methodology>.

¹⁴ [OC Resilient Jobs & Jobs for Recovery - Centers of Excellence for Labor Market Research \(coecce.net\)](https://www.coecce.net)

- Lightcast’s Automation Index – according to Lightcast, the “automation index measures the risk of an occupation for automation. It is presented on an index with a base of 100--occupations with a score above 100 have a greater-than-average risk of automation, and occupations with a score below 100 have a lower-than-average risk of automation.”¹⁶

The OC COE examined the distribution of the points earned for each occupation and sector and determined that occupations earning four points or more would be included in the analysis. Exhibit 68 shows the average number of points earned by sector and skill level.

Exhibit 68: Average Number of Points Earned by Sector and Skill Level

Sector	Below Middle-Skill	Middle-Skill	Above Middle-Skill	Grand Total
Advanced Manufacturing	0.7	2.1	4.7	1.6
Advanced Transportation & Logistics	2.0	2.7	4.0	2.5
Agriculture, Water & Environmental Technologies	1.4	1.6	4.1	2.2
Business & Entrepreneurship	2.0	3.6	5.2	4.1
Education & Human Development	4.0	4.4	5.3	5.1
Energy, Construction & Utilities	1.6	2.9	5.0	2.6
Health	2.8	4.6	5.1	4.8
Information and Communication Technologies (ICT)/Digital Media	2.8	4.2	4.8	4.2
Life Sciences/Biotech		3.7	4.5	3.9
Other	2.0	2.9	3.9	2.9
Public Safety	2.7	3.7	4.5	3.5
Retail, Hospitality & Tourism	2.4	3.2	4.8	2.8
Total	1.7	3.2	4.8	3.2

Occupational Sectors

To further understand the Orange County labor market by sector, the OC COE categorized each of the 796 occupations within the BLS’s SOC system using a TOP-SOC-Sector crosswalk that matches community college Taxonomy of Program (TOP) codes to SOC codes. Occupations were assigned to sectors based on this crosswalk. It is important to note that this crosswalk is a 1:1 crosswalk, meaning that each individual TOP code and SOC code is assigned to one sector. However, the OC COE acknowledges that educational programs may prepare students to enter a variety of sectors. A mapping of how TOP codes prepare students for occupations in different sectors is included in Appendix C.

¹⁵ "100 Best Jobs," U.S. News and World Report, accessed February 10, 2023, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.

¹⁶ "Automation Index Methodology," Lightcast Knowledge Base, accessed November 15, 2023, <https://kb.lightcast.io/en/articles/6957638-automation-index-methodology>.

Supply

Supply is defined as the average number of awards conferred by community colleges in the last three years, and the average number of awards conferred by non-community college institutions in the last two years.

To further understand the labor market and determine where labor gaps exist, the OC COE utilized a TOP-CIP-SOC crosswalk to identify educational programs at community college and non-community college institutions and how they are related to the SOC codes analyzed in this report. Though educational programs may train students for multiple occupations, TOP and CIP program codes were exclusively assigned to one sector for the purposes of measuring supply in this report. Consequently, the supply from each TOP and CIP code was tallied only once. The supply for that TOP or CIP code was assigned to the occupations in their corresponding sector assignment. For example, Business Administration (0505.00) programs train students for a variety of business and management roles in various sectors. However, for the purposes of this report, all awards conferred under the Business Administration TOP code were assigned to the Business and Entrepreneurship sector. A mapping of how the supply for each TOP code was assigned to each sector is included in Appendix C.

It is also important to note that International Business and Trade (0508.00) is the sole TOP code assigned to the Global Trade sector. However, for the purposes of this report, International Business and Trade is categorized within the Business and Entrepreneurship sector.

Appendix B: Points Earned by Occupation and Sector

Exhibit 69 shows the number of points earned by each occupation.

Exhibit 69: Points Earned by Occupation and Sector

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
Advanced Manufacturing	17-2112	Industrial Engineers	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	17-2071	Electrical Engineers	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	49-9041	Industrial Machinery Mechanics	Middle-Skill	6	1	1	1	1	1	1	0	0
	51-1011	First-Line Supervisors of Production and Operating Workers	Middle-Skill	6	1	0	1	1	1	1	0	1
	17-2061	Computer Hardware Engineers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	17-2141	Mechanical Engineers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	17-3023	Electrical and Electronic Engineering Technologists and Technicians	Middle-Skill	5	1	0	1	1	1	0	0	1
	19-5011	Occupational Health and Safety Specialists	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	27-1021	Commercial and Industrial Designers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	17-2041	Chemical Engineers	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	17-3026	Industrial Engineering Technologists and	Middle-Skill	4	0	1	0	1	1	0	0	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
		Technicians										
	17-3029	Engineering Technologists and Technicians, Except Drafters, All Other	Middle-Skill	4	1	0	1	1	0	0	0	1
	19-2032	Materials Scientists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
Advanced Transportation and Logistics	13-1081	Logisticians	Middle-Skill	8	1	1	1	1	1	1	1	1
	11-3071	Transportation, Storage, and Distribution Managers	Middle-Skill	6	1	0	1	1	1	1	0	1
	49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	Middle-Skill	6	1	0	1	1	1	1	0	1
	53-2012	Commercial Pilots	Middle-Skill	6	0	1	1	1	1	0	1	1
	53-1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	Middle-Skill	5	1	0	1	1	0	1	0	1
	53-3051	Bus Drivers, School	Below Middle-Skill	5	1	1	1	1	0	0	0	1
	43-5011	Cargo and Freight Agents	Middle-Skill	4	1	1	1	0	0	0	0	1
	43-5061	Production, Planning, and Expediting Clerks	Middle-Skill	4	1	0	1	1	0	0	0	1
	49-3011	Aircraft Mechanics	Middle-Skill	4	1	0	1	1	1	0	0	0

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
		and Service Technicians										
	49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	Middle-Skill	4	1	0	1	1	1	0	0	0
	49-3042	Mobile Heavy Equipment Mechanics, Except Engines	Middle-Skill	4	1	0	1	1	1	0	0	0
	53-1041	Aircraft Cargo Handling Supervisors	Middle-Skill	4	0	1	0	1	1	0	0	1
	53-2011	Airline Pilots, Copilots, and Flight Engineers	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	53-3033	Light Truck Drivers	Below Middle-Skill	4	1	1	1	0	0	0	1	0
	53-3052	Bus Drivers, Transit and Intercity	Middle-Skill	4	1	0	1	1	0	0	0	1
	53-3053	Shuttle Drivers and Chauffeurs	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	53-3054	Taxi Drivers	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	53-4041	Subway and Streetcar Operators	Middle-Skill	4	0	1	0	1	1	0	0	1
	53-7021	Crane and Tower Operators	Middle-Skill	4	1	0	1	1	1	0	0	0
Agriculture, Water, and Environmental Technologies	17-2081	Environmental Engineers	Above Middle-Skill	7	1	0	1	1	1	1	1	1
	29-1131	Veterinarians	Above Middle-Skill	6	1	1	0	1	1	0	1	1
	29-2056	Veterinary Technologists and	Middle-Skill	5	1	1	1	0	0	0	1	1

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		Technicians										
	19-1011	Animal Scientists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-1013	Soil and Plant Scientists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-1023	Zoologists and Wildlife Biologists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	25-9021	Farm and Home Management Educators	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	31-9096	Veterinary Assistants and Laboratory Animal Caretakers	Middle-Skill	4	1	1	1	0	0	0	0	1
	37-3013	Tree Trimmers and Pruners	Below Middle-Skill	4	1	0	1	1	0	1	0	0
Business and Entrepreneurship	11-3031	Financial Managers	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	11-9151	Social and Community Service Managers	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	11-1021	General and Operations Managers	Middle-Skill	8	1	1	1	1	1	1	1	1
	13-1161	Market Research Analysts and Marketing Specialists	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	15-2031	Operations Research Analysts	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	11-2022	Sales Managers	Above Middle-Skill	7	1	0	1	1	1	1	1	1
	13-1071	Human Resources Specialists	Above Middle-Skill	7	1	0	1	1	1	1	1	1

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	13-1111	Management Analysts	Above Middle-Skill	7	1	0	1	1	1	1	1	1
	13-2052	Personal Financial Advisors	Above Middle-Skill	7	1	0	1	1	1	1	1	1
	11-2021	Marketing Managers	Above Middle-Skill	6	1	0	1	1	1	0	1	1
	11-3012	Administrative Services Managers	Middle-Skill	6	1	0	1	1	1	1	0	1
	11-3013	Facilities Managers	Middle-Skill	6	1	0	1	1	1	1	0	1
	11-3051	Industrial Production Managers	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	11-3121	Human Resources Managers	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	11-9199	Managers, All Other	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	11-1011	Chief Executives	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	13-1028	Buyers and Purchasing Agents	Middle-Skill	6	1	0	1	1	1	1	0	1
	13-1051	Cost Estimators	Middle-Skill	6	1	0	1	1	1	1	0	1
	13-1082	Project Management Specialists	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	13-1131	Fundraisers	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	13-2011	Accountants and Auditors	Above Middle-Skill	6	1	0	1	1	1	0	1	1
	13-2028	Property Appraisers and Assessors	Middle-Skill	6	1	0	1	1	1	1	0	1
	13-2051	Financial and Investment Analysts	Above Middle-Skill	6	1	0	1	1	1	0	1	1
	13-2061	Financial Examiners	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	13-2099	Financial Specialists, All Other	Above Middle-Skill	6	1	0	1	1	1	1	0	1

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	27-3031	Public Relations Specialists	Above Middle-Skill	6	1	0	1	1	1	0	1	1
	11-3061	Purchasing Managers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	13-1031	Claims Adjusters, Examiners, and Investigators	Middle-Skill	5	1	0	1	1	1	0	0	1
	13-1141	Compensation, Benefits, and Job Analysis Specialists	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	13-1199	Business Operations Specialists, All Other	Above Middle-Skill	5	1	0	1	1	0	1	0	1
	13-2041	Credit Analysts	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	13-2053	Insurance Underwriters	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	13-2072	Loan Officers	Above Middle-Skill	5	1	0	1	1	0	0	1	1
	41-1012	First-Line Supervisors of Non-Retail Sales Workers	Middle-Skill	5	1	0	1	1	1	0	0	1
	41-3021	Insurance Sales Agents	Middle-Skill	5	1	0	1	1	0	1	0	1
	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	41-4012	Sales Representatives, Wholesale and Manufacturing,	Middle-Skill	5	1	0	1	1	1	0	0	1

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		Except Technical and Scientific Products										
	41-9021	Real Estate Brokers	Middle-Skill	5	1	0	1	1	1	0	0	1
	41-9031	Sales Engineers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	43-1011	First-Line Supervisors of Office and Administrative Support Workers	Middle-Skill	5	1	0	1	1	1	0	0	1
	43-6011	Executive Secretaries and Executive Administrative Assistants	Middle-Skill	5	1	0	1	1	1	0	0	1
	11-2032	Public Relations Managers	Above Middle-Skill	4	1	0	0	1	1	0	0	1
	11-2033	Fundraising Managers	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	11-3131	Training and Development Managers	Above Middle-Skill	4	1	0	0	1	1	0	0	1
	11-9141	Property, Real Estate, and Community Association Managers	Middle-Skill	4	1	0	1	1	0	0	0	1
	11-9171	Funeral Home Managers	Middle-Skill	4	0	1	0	1	1	0	0	1
	13-2054	Financial Risk Specialists	Above Middle-Skill	4	1	0	0	1	1	0	0	1
	15-2011	Actuaries	Above Middle-Skill	4	0	0	0	1	1	0	1	1

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	19-3032	Industrial-Organizational Psychologists	Above Middle-Skill	4	0	0	0	1	1	0	1	1
	23-2093	Title Examiners, Abstractors, and Searchers	Middle-Skill	4	1	0	0	1	1	0	0	1
	39-5012	Hairdressers, Hairstylists, and Cosmetologists	Middle-Skill	4	1	1	1	0	0	0	0	1
	39-5091	Makeup Artists, Theatrical and Performance	Middle-Skill	4	0	1	0	1	1	0	0	1
	39-5092	Manicurists and Pedicurists	Middle-Skill	4	1	1	1	0	0	0	1	0
	39-5094	Skincare Specialists	Middle-Skill	4	1	1	1	0	0	0	0	1
	41-3031	Securities, Commodities, and Financial Services Sales Agents	Above Middle-Skill	4	1	0	1	1	0	0	0	1
	41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Below Middle-Skill	4	1	0	1	1	0	0	0	1
	43-3051	Payroll and Timekeeping Clerks	Middle-Skill	4	1	0	1	1	0	1	0	0
	43-4011	Brokerage Clerks	Middle-Skill	4	1	0	1	1	0	0	0	1
	43-4171	Receptionists and Information Clerks	Middle-Skill	4	1	1	1	0	0	0	0	1

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Education and Human Development	21-1012	Educational, Guidance, and Career Counselors and Advisors	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	25-2021	Elementary School Teachers, Except Special Education	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	25-2022	Middle School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	11-9032	Education Administrators, Kindergarten through Secondary	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	11-9039	Education Administrators, All Other	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	25-2012	Kindergarten Teachers, Except Special Education	Middle-Skill	7	1	1	1	1	1	1	0	1
	25-2031	Secondary School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	7	1	1	1	1	1	0	1	1
	25-2052	Special Education Teachers, Kindergarten and Elementary School	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	25-3099	Teachers and	Above Middle-Skill	7	1	1	1	1	1	1	0	1

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		Instructors, All Other										
	25-9031	Instructional Coordinators	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	11-9033	Education Administrators, Postsecondary	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	13-1151	Training and Development Specialists	Above Middle-Skill	6	1	1	1	1	0	1	0	1
	21-1021	Child, Family, and School Social Workers	Above Middle-Skill	6	1	1	1	1	0	1	0	1
	25-2058	Special Education Teachers, Secondary School	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	25-4022	Librarians and Media Collections Specialists	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	21-1013	Marriage and Family Therapists	Above Middle-Skill	5	1	1	1	1	0	0	0	1
	25-1099	Postsecondary Teachers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	25-2059	Special Education Teachers, All Other	Above Middle-Skill	5	1	1	1	1	0	0	0	1
	21-1019	Counselors, All Other	Above Middle-Skill	4	1	1	1	0	0	0	0	1
	21-1099	Community and Social Service Specialists, All Other	Above Middle-Skill	4	1	1	1	0	0	0	0	1
	25-2011	Preschool Teachers, Except Special Education	Middle-Skill	4	1	1	1	0	0	0	0	1

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	25-2032	Career/Technical Education Teachers, Secondary School	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	25-2051	Special Education Teachers, Preschool	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	25-2057	Special Education Teachers, Middle School	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	25-3021	Self-Enrichment Teachers	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	25-3031	Substitute Teachers, Short-Term	Above Middle-Skill	4	1	1	1	0	0	0	0	1
	25-3041	Tutors	Above Middle-Skill	4	1	1	1	0	0	0	0	1
	25-9044	Teaching Assistants, Postsecondary	Middle-Skill	4	1	1	1	0	0	0	0	1
	25-9045	Teaching Assistants, Except Postsecondary	Middle-Skill	4	1	1	1	0	0	0	0	1
Energy, Construction, and Utilities	11-9021	Construction Managers	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	17-2051	Civil Engineers	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	47-2111	Electricians	Middle-Skill	7	1	1	1	1	1	1	1	0
	17-1011	Architects, Except Landscape and Naval	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	17-3011	Architectural and Civil Drafters	Middle-Skill	6	1	0	1	1	1	1	0	1

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	19-2041	Environmental Scientists and Specialists, Including Health	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Middle-Skill	6	1	1	1	1	1	1	0	0
	11-9041	Architectural and Engineering Managers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	17-3022	Civil Engineering Technologists and Technicians	Middle-Skill	5	1	0	1	1	1	0	0	1
	47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	Middle-Skill	5	1	0	1	1	1	1	0	0
	47-2073	Operating Engineers and Other Construction Equipment Operators	Middle-Skill	5	1	0	1	1	1	1	0	0
	47-2161	Plasterers and Stucco Masons	Below Middle-Skill	5	1	0	1	1	1	1	0	0
	47-2181	Roofers	Below Middle-Skill	5	1	1	1	1	1	0	0	0
	47-4011	Construction and Building Inspectors	Middle-Skill	5	1	0	1	1	1	0	0	1

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	49-2098	Security and Fire Alarm Systems Installers	Middle-Skill	5	1	0	1	1	1	1	0	0
	17-1022	Surveyors	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	17-2161	Nuclear Engineers	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	17-2171	Petroleum Engineers	Above Middle-Skill	4	0	0	0	1	1	0	1	1
	17-3031	Surveying and Mapping Technicians	Middle-Skill	4	0	1	0	1	1	0	0	1
	19-2042	Geoscientists, Except Hydrologists and Geographers	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-4043	Geological Technicians, Except Hydrologic Technicians	Middle-Skill	4	0	1	0	1	1	0	0	1
	19-4051	Nuclear Technicians	Middle-Skill	4	0	1	0	1	1	0	0	1
	47-2051	Cement Masons and Concrete Finishers	Below Middle-Skill	4	1	0	1	1	1	0	0	0
	47-2071	Paving, Surfacing, and Tamping Equipment Operators	Middle-Skill	4	0	1	0	1	1	1	0	0
	47-2081	Drywall and Ceiling	Below Middle-Skill	4	1	0	1	1	1	0	0	0

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		Tile Installers										
	47-2152	Plumbers, Pipefitters, and Steamfitters	Middle-Skill	4	1	0	1	1	1	0	0	0
	47-2211	Sheet Metal Workers	Middle-Skill	4	1	0	1	1	1	0	0	0
	47-2231	Solar Photovoltaic Installers	Middle-Skill	4	0	1	1	1	0	0	1	0
	49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	Middle-Skill	4	1	0	1	1	1	0	0	0
	49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Middle-Skill	4	0	1	0	1	1	0	0	1
	49-9052	Telecommunications Line Installers and Repairers	Middle-Skill	4	1	0	1	1	1	0	0	0
	49-9081	Wind Turbine Service Technicians	Middle-Skill	4	0	1	0	1	1	0	1	0
	51-8011	Nuclear Power Reactor Operators	Middle-Skill	4	0	1	0	1	1	0	0	1
	51-8021	Stationary Engineers and Boiler Operators	Middle-Skill	4	1	0	1	1	0	1	0	0
Health	11-9111	Medical and Health Services Managers	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	19-3033	Clinical and	Above Middle-Skill	8	1	1	1	1	1	1	1	1

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		Counseling Psychologists										
	29-1021	Dentists, General	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	29-1041	Optometrists	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	29-1071	Physician Assistants	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	29-1122	Occupational Therapists	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	29-1123	Physical Therapists	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	29-1127	Speech-Language Pathologists	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	29-1141	Registered Nurses	Middle-Skill	8	1	1	1	1	1	1	1	1
	29-1171	Nurse Practitioners	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	29-1292	Dental Hygienists	Middle-Skill	8	1	1	1	1	1	1	1	1
	29-2032	Diagnostic Medical Sonographers	Middle-Skill	8	1	1	1	1	1	1	1	1
	31-2021	Physical Therapist Assistants	Middle-Skill	8	1	1	1	1	1	1	1	1
	19-3039	Psychologists, All Other	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	21-1023	Mental Health and Substance Abuse Social Workers	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	29-1051	Pharmacists	Above Middle-Skill	7	1	0	1	1	1	1	1	1
	29-1126	Respiratory Therapists	Middle-Skill	7	1	1	1	1	1	0	1	1
	29-2034	Radiologic Technologists and Technicians	Middle-Skill	7	1	1	1	1	1	1	0	1

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	29-2061	Licensed Practical and Licensed Vocational Nurses	Middle-Skill	7	1	1	1	1	1	0	1	1
	19-1042	Medical Scientists, Except Epidemiologists	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	19-3034	School Psychologists	Above Middle-Skill	6	1	0	1	1	1	0	1	1
	21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Above Middle-Skill	6	1	1	1	1	0	0	1	1
	21-1022	Healthcare Social Workers	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	29-1216	General Internal Medicine Physicians	Above Middle-Skill	6	1	1	0	1	1	0	1	1
	29-1223	Psychiatrists	Above Middle-Skill	6	1	1	0	1	1	0	1	1
	29-1229	Physicians, All Other	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	29-2055	Surgical Technologists	Middle-Skill	6	1	1	1	1	1	0	0	1
	29-2072	Medical Records Specialists	Middle-Skill	6	1	1	1	1	0	0	1	1
	31-2011	Occupational Therapy Assistants	Middle-Skill	6	0	1	1	1	1	0	1	1
	19-1041	Epidemiologists	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	21-1029	Social Workers, All Other	Above Middle-Skill	5	1	1	1	1	0	0	0	1
	21-1094	Community Health Workers	Middle-Skill	5	1	1	1	0	0	0	1	1
	29-1022	Oral and Maxillofacial Surgeons	Above Middle-Skill	5	0	1	0	1	1	0	1	1

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	29-1023	Orthodontists	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	29-1024	Prosthodontists	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	29-1031	Dietitians and Nutritionists	Above Middle-Skill	5	1	1	1	0	0	0	1	1
	29-1151	Nurse Anesthetists	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	29-1181	Audiologists	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	29-1211	Anesthesiologists	Above Middle-Skill	5	1	0	0	1	1	0	1	1
	29-1215	Family Medicine Physicians	Above Middle-Skill	5	1	1	0	1	1	0	0	1
	29-1218	Obstetricians and Gynecologists	Above Middle-Skill	5	0	0	0	1	1	1	1	1
	29-2031	Cardiovascular Technologists and Technicians	Middle-Skill	5	0	1	0	1	1	0	1	1
	29-2035	Magnetic Resonance Imaging Technologists	Middle-Skill	5	0	1	0	1	1	0	1	1
	29-2081	Opticians, Dispensing	Middle-Skill	5	1	1	1	1	0	0	0	1
	29-2091	Orthotists and Prosthetists	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	29-9092	Genetic Counselors	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	31-1128	Home Health and Personal Care Aides	Middle-Skill	5	1	1	1	0	0	0	1	1
	31-9011	Massage Therapists	Middle-Skill	5	1	1	1	0	0	0	1	1
	31-9092	Medical Assistants	Middle-Skill	5	1	1	1	0	0	0	1	1
	31-9093	Medical Equipment Preparers	Middle-Skill	5	1	1	1	1	0	1	0	0
	21-1015	Rehabilitation	Above Middle-Skill	4	1	1	1	0	0	0	0	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
		Counselors										
	21-1091	Health Education Specialists	Above Middle-Skill	4	0	1	1	1	0	0	0	1
	21-1093	Social and Human Service Assistants	Middle-Skill	4	1	1	1	0	0	0	0	1
	29-1011	Chiropractors	Above Middle-Skill	4	1	0	0	1	0	0	1	1
	29-1081	Podiatrists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	29-1124	Radiation Therapists	Middle-Skill	4	0	1	0	1	1	0	0	1
	29-1125	Recreational Therapists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	29-1161	Nurse Midwives	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	29-1213	Dermatologists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	29-1214	Emergency Medicine Physicians	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	29-1221	Pediatricians, General	Above Middle-Skill	4	0	0	0	1	1	0	1	1
	29-1222	Physicians, Pathologists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	29-1224	Radiologists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	29-1291	Acupuncturists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	29-2033	Nuclear Medicine Technologists	Middle-Skill	4	0	1	0	1	1	0	0	1
	29-2042	Emergency Medical Technicians	Middle-Skill	4	1	1	1	0	0	0	0	1
	29-2043	Paramedics	Middle-Skill	4	0	1	0	1	1	0	0	1
	29-2053	Psychiatric Technicians	Middle-Skill	4	1	1	1	0	0	0	0	1
	29-2099	Health Technologists and Technicians, All	Middle-Skill	4	1	1	1	0	0	0	0	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
		Other										
	29-9021	Health Information Technologists and Medical Registrars	Middle-Skill	4	0	1	0	1	1	0	0	1
	31-1131	Nursing Assistants	Middle-Skill	4	1	1	1	0	0	0	0	1
	31-2012	Occupational Therapy Aides	Middle-Skill	4	0	1	0	1	1	0	0	1
	31-2022	Physical Therapist Aides	Middle-Skill	4	1	1	1	0	0	0	0	1
	31-9091	Dental Assistants	Middle-Skill	4	1	1	1	0	0	0	0	1
	31-9097	Phlebotomists	Middle-Skill	4	1	1	1	1	0	0	0	0
	31-9099	Healthcare Support Workers, All Other	Middle-Skill	4	1	1	1	0	0	0	0	1
	39-9041	Residential Advisors	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	43-6013	Medical Secretaries and Administrative Assistants	Middle-Skill	4	1	1	1	0	0	0	0	1
	51-9082	Medical Appliance Technicians	Below Middle-Skill	4	1	1	1	0	0	1	0	0
Information and Communication Technologies (ICT)/Digital Media	15-1212	Information Security Analysts	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	15-2051	Data Scientists	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	11-3021	Computer and Information Systems Managers	Above Middle-Skill	7	1	0	1	1	1	1	1	1
	15-1241	Computer Network Architects	Middle-Skill	7	1	0	1	1	1	1	1	1
	15-1242	Database Administrators	Above Middle-Skill	7	1	0	1	1	1	1	1	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
	15-1252	Software Developers	Above Middle-Skill	7	1	1	1	1	1	0	1	1
	15-1211	Computer Systems Analysts	Above Middle-Skill	6	1	0	1	1	1	0	1	1
	15-1232	Computer User Support Specialists	Middle-Skill	6	1	0	1	1	1	1	0	1
	15-1244	Network and Computer Systems Administrators	Middle-Skill	6	1	0	1	1	1	0	1	1
	15-1253	Software Quality Assurance Analysts and Testers	Above Middle-Skill	6	1	1	1	1	1	0	0	1
	15-1254	Web Developers	Middle-Skill	6	1	1	1	1	0	0	1	1
	15-1255	Web and Digital Interface Designers	Middle-Skill	6	1	1	1	1	1	0	0	1
	15-1299	Computer Occupations, All Other	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	27-1011	Art Directors	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	27-2012	Producers and Directors	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	15-1231	Computer Network Support Specialists	Middle-Skill	5	1	0	1	1	1	0	0	1
	15-1243	Database Architects	Above Middle-Skill	5	0	1	0	1	1	1	0	1
	15-1251	Computer Programmers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	17-2072	Electronics Engineers, Except Computer	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	27-1014	Special Effects Artists and Animators	Above Middle-Skill	5	1	0	1	1	1	0	0	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
	27-1024	Graphic Designers	Above Middle-Skill	5	1	0	1	1	0	1	0	1
	27-4011	Audio and Video Technicians	Middle-Skill	5	1	1	1	1	0	0	0	1
	27-4012	Broadcast Technicians	Middle-Skill	5	1	0	1	1	1	0	0	1
	15-1221	Computer and Information Research Scientists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	17-1021	Cartographers and Photogrammetrists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	27-2041	Music Directors and Composers	Above Middle-Skill	4	1	0	1	1	0	0	0	1
	27-2099	Entertainers and Performers, Sports and Related Workers, All Other	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	27-3099	Media and Communication Workers, All Other	Below Middle-Skill	4	1	0	1	1	0	0	0	1
	27-4015	Lighting Technicians	Below Middle-Skill	4	0	1	0	1	1	0	0	1
	27-4021	Photographers	Middle-Skill	4	1	1	1	0	0	0	0	1
Life Sciences and Biotechnology	29-2018	Clinical Laboratory Technologists and Technicians	Middle-Skill	6	1	1	1	1	0	0	1	1
	17-2031	Bioengineers and Biomedical Engineers	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	49-9062	Medical Equipment Repairers	Middle-Skill	5	1	1	1	1	0	1	0	0
	19-1029	Biological Scientists, All Other	Above Middle-Skill	4	1	0	0	1	1	0	0	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
	19-4099	Life, Physical, and Social Science Technicians, All Other	Middle-Skill	4	1	0	1	0	0	1	0	1
Public Safety	33-1012	First-Line Supervisors of Police and Detectives	Middle-Skill	6	1	1	0	1	1	1	0	1
	33-2011	Firefighters	Middle-Skill	6	1	1	1	1	1	0	1	0
	33-3012	Correctional Officers and Jailers	Middle-Skill	6	1	0	1	1	1	1	0	1
	33-3051	Police and Sheriff's Patrol Officers	Middle-Skill	6	1	0	1	1	1	0	1	1
	21-1092	Probation Officers and Correctional Treatment Specialists	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	11-9161	Emergency Management Directors	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-4092	Forensic Science Technicians	Middle-Skill	4	0	1	0	1	1	0	0	1
	33-1011	First-Line Supervisors of Correctional Officers	Middle-Skill	4	0	1	0	1	1	0	0	1
	33-1021	First-Line Supervisors of Firefighting and Prevention Workers	Middle-Skill	4	0	1	0	1	1	0	0	1
	33-1099	First-Line Supervisors of Protective Service Workers, All Other	Middle-Skill	4	0	1	0	1	1	0	0	1
	33-2022	Forest Fire	Middle-Skill	4	0	1	0	1	1	0	0	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
		Inspectors and Prevention Specialists										
	33-9091	Crossing Guards and Flaggers	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	33-9099	Protective Service Workers, All Other	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	43-5031	Public Safety Telecommunicators	Middle-Skill	4	0	1	0	1	1	0	0	1
Retail, Hospitality, and Tourism	11-9072	Entertainment and Recreation Managers, Except Gambling	Above Middle-Skill	5	1	1	1	1	0	0	0	1
	27-1022	Fashion Designers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	27-1025	Interior Designers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	35-1011	Chefs and Head Cooks	Middle-Skill	5	1	1	1	1	0	0	0	1
	39-9032	Recreation Workers	Below Middle-Skill	5	1	1	1	0	0	0	1	1
	11-9071	Gambling Managers	Middle-Skill	4	0	1	0	1	1	0	0	1
	11-9081	Lodging Managers	Middle-Skill	4	1	1	1	0	0	0	0	1
	13-1121	Meeting, Convention, and Event Planners	Above Middle-Skill	4	1	1	1	0	0	0	0	1
	35-2014	Cooks, Restaurant	Below Middle-Skill	4	1	1	1	0	0	0	1	0

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
	39-1014	First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services	Middle-Skill	4	1	1	1	0	0	0	0	1
	39-1022	First-Line Supervisors of Personal Service Workers	Middle-Skill	4	1	1	1	0	0	0	0	1
	39-7018	Tour and Travel Guides	Middle-Skill	4	1	1	1	0	0	0	0	1
	39-9099	Personal Care and Service Workers, All Other	Below Middle-Skill	4	1	1	1	0	0	0	0	1
	43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	Middle-Skill	4	1	1	1	0	0	0	0	1
Other	23-1011	Lawyers	Above Middle-Skill	8	1	1	1	1	1	1	1	1
	21-2011	Clergy	Above Middle-Skill	7	1	1	1	1	1	1	0	1
	23-2011	Paralegals and Legal Assistants	Middle-Skill	7	1	1	1	1	1	0	1	1
	13-1041	Compliance Officers	Above Middle-Skill	6	1	0	1	1	1	1	0	1
	15-2041	Statisticians	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	17-2011	Aerospace Engineers	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	17-2199	Engineers, All Other	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	19-1021	Biochemists and Biophysicists	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	19-2031	Chemists	Above Middle-Skill	5	1	0	1	1	1	0	0	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
	19-3094	Political Scientists	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	27-3041	Editors	Above Middle-Skill	5	1	0	1	1	1	0	0	1
	27-3042	Technical Writers	Above Middle-Skill	5	0	1	0	1	1	0	1	1
	27-3091	Interpreters and Translators	Middle-Skill	5	1	1	1	0	0	1	0	1
	43-4061	Eligibility Interviewers, Government Programs	Below Middle-Skill	5	1	0	1	1	0	1	0	1
	11-9121	Natural Sciences Managers	Above Middle-Skill	4	1	0	0	1	1	0	0	1
	15-2099	Mathematical Science Occupations, All Other	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-1022	Microbiologists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-2012	Physicists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-2021	Atmospheric and Space Scientists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-3011	Economists	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-3099	Social Scientists and Related Workers, All Other	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	19-4061	Social Science Research Assistants	Middle-Skill	4	0	1	0	1	0	1	0	1
	21-2021	Directors, Religious Activities and Education	Above Middle-Skill	4	1	0	1	1	0	0	0	1
	23-1022	Arbitrators, Mediators, and Conciliators	Above Middle-Skill	4	0	1	0	1	1	0	0	1

Sector	SOC	Occupation	Skill Level	Points	2022 Jobs (Median)	2022 - 2027 % Change	Avg. Annual Openings	Living Wage (Insight)	Living Wage (MIT)	Great Recession, COVID-19 Pandemic, or Overall Resilient	U.S. News & World Report 2023 Best Job	Automation Index
	23-1023	Judges, Magistrate Judges, and Magistrates	Above Middle-Skill	4	0	1	0	1	1	0	0	1
	27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Above Middle-Skill	4	1	1	1	0	0	0	0	1
	27-2022	Coaches and Scouts	Above Middle-Skill	4	1	1	1	0	0	0	0	1
	33-9011	Animal Control Workers	Below Middle-Skill	4	0	1	0	1	1	0	0	1
	39-9031	Exercise Trainers and Group Fitness Instructors	Middle-Skill	4	1	1	1	0	0	0	0	1
	43-4031	Court, Municipal, and License Clerks	Middle-Skill	4	0	1	1	1	0	0	0	1
	53-6041	Traffic Technicians	Below Middle-Skill	4	0	1	0	1	1	0	0	1

Appendix C: TOP-Sector Matrix

Exhibit 70 shows the TOP-Sector Crosswalk used to determine the TOP codes that correspond to each sector. As noted in Appendix A, the OC COE acknowledges that a single TOP code may prepare students for multiple occupations across sectors. To illustrate this point, a shaded cell with a “★” denotes the primary sector of each TOP code. Lighter shaded cells with “✓” indicate the TOP code trains for occupations in that sector. For the purposes of this report, the supply for each TOP code was assigned to occupations in the corresponding primary sector.

The following sector abbreviations are used in Exhibit 70:

- **AM:** Advanced Manufacturing
- **ATL:** Advanced Transportation and Logistics
- **AgWET:** Agriculture, Water and Environmental Technologies
- **BE:** Business and Entrepreneurship
- **EDU:** Education and Human Development
- **ECU:** Energy, Construction, and Utilities
- **H:** Health
- **ICT/DM:** Information and Communication Technologies/Digital Media
- **LSBT:** Life Sciences and Biotechnology
- **O:** Other
- **PS:** Public Safety
- **RHT:** Retail, Hospitality, and Tourism

Exhibit 70: TOP-Sector Crosswalk

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
0102.00	Animal Science			★									
0102.10	Veterinary Technician (Licensed)			★				✓					
0102.20	Artificial Inseminator			★									
0102.30	Dairy Science			★									
0102.40	Equine Science			★									
0103.00	Plant Science			★									
0103.10	Agricultural Pest Control Advisor and Operator			★									
0104.00	Viticulture, Enology, and Wine Business			★	✓								
0109.00	Horticulture			★									
0109.40	Turfgrass Technology			★	✓								✓

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
0112.00	Agriculture Business, Sales and Service			★	✓				✓				
0115.00	Natural Resources			★									
0115.10	Parks and Outdoor Recreation			★	✓								✓
0115.20	Wildlife and Fisheries			★									
0116.00	Agricultural Power Equipment Technology		✓	★									
0201.00	Architecture and Architectural Technology	✓					★						
0430.00	Biotechnology and Biomedical Technology	✓							✓	★	✓		
0501.00	Business and Commerce, General		✓		★		✓		✓		✓		✓
0502.00	Accounting				★								
0502.10	Tax Studies				★								
0504.00	Banking and Finance				★								
0505.00	Business Administration		✓		★		✓		✓		✓		✓
0506.00	Business Management		✓		★		✓		✓		✓		✓
0506.30	Management Development and Supervision	✓	✓		★		✓		✓				
0506.40	Small Business and Entrepreneurship				★								✓
0506.50	Retail Store Operations and Management				✓								★
0508.00	International Business and Trade				★								
0509.00	Marketing and Distribution				★				✓				
0509.20	Purchasing				★								
0509.40	Sales and Salesmanship				★								

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
0509.60	Display												★
0509.70	E-Commerce (Business emphasis)				★				✓				
0510.00	Logistics and Materials Transportation		★										
0511.00	Real Estate				★								
0511.10	Escrow				★								
0512.00	Insurance				★								
0514.00	Office Technology/Office Computer Applications		✓		✓				★				
0514.20	Medical Office Technology				✓			★					
0514.40	Office Management				✓								★
0516.00	Labor and Industrial Relations				✓						✓		★
0602.00	Journalism								★		✓		
0604.00	Radio and Television								★				
0604.10	Radio								★				
0604.20	Television (including combined TV/Film/Video)								★				
0604.30	Broadcast Journalism								★		✓		
0606.00	Public Relations				✓								★
0607.00	Technical Communication								★		✓		
0610.00	Mass Communications				✓				★		✓		
0612.20	Film Production								★				
0614.00	Digital Media				✓				★				✓
0614.10	Multimedia								★				
0614.20	Electronic Game Design								★				
0614.30	Website Design and Development								★				

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
0614.40	Animation								★				
0614.60	Computer Graphics and Digital Imagery								★				
0699.00	Other Media and Communications								★		✓		
0701.00	Information Technology, General	✓							★				
0702.00	Computer Information Systems	✓			✓				★		✓		
0702.10	Software Applications								★				
0707.00	Computer Software Development	✓			✓				★		✓		
0707.10	Computer Programming				✓				★		✓		
0707.20	Database Design and Administration				✓				★		✓		
0707.30	Computer Systems Analysis								★				
0708.00	Computer Infrastructure and Support								★				
0708.10	Computer Networking								★				
0708.20	Computer Support								★				
0709.00	World Wide Web Administration								★				
0709.10	E-Commerce (Technology emphasis)				✓				★				
0802.00	Educational Aide (Teacher Assistant)					★							
0802.10	Educational Aide (Teacher Assistant), Bilingual					★							
0809.00	Special Education					★							
0835.20	Fitness Trainer										★		
0835.60	Coaching				✓	★					✓		✓

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
0836.10	Recreation Assistant				✓	★							✓
0850.10	Sign Language Interpreting					★					✓		
0860.00	Educational Technology					★							
0899.00	Other Education					★							
0924.00	Engineering Technology, General (requires Trigonometry)	★					✓				✓		
0934.00	Electronics and Electric Technology	★					✓				✓		
0934.10	Computer Electronics	★							✓				
0934.20	Industrial Electronics	★											
0934.30	Telecommunications Technology	✓					✓		★				
0934.40	Electrical Systems and Power Transmission		✓				★						
0934.60	Biomedical Instrumentation	✓								★			
0934.70	Electron Microscopy	✓								★			
0934.80	Laser and Optical Technology	★											
0943.00	Instrumentation Technology	★											
0945.00	Industrial Systems Technology and Maintenance	★					✓						
0946.00	Environmental Control Technology (HVAC)	✓					★						
0946.10	Energy Systems Technology	✓	✓				★				✓		
0947.00	Diesel Technology		★				✓						
0947.20	Heavy Equipment Maintenance		★										

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
0947.30	Heavy Equipment Operation		★				✓						
0947.40	Railroad and Light Rail Operations		★										
0947.50	Truck and Bus Driving		★										
0948.00	Automotive Technology	✓	★										
0948.50	Recreational Vehicle Service		★										
0950.00	Aeronautical and Aviation Technology	★	✓				✓				✓		
0950.10	Aviation Airframe Mechanics		★										
0950.20	Aviation Powerplant Mechanics		★										
0950.50	Aircraft Fabrication	★	✓										
0952.00	Construction Crafts Technology				✓		★						
0952.10	Carpentry						★						
0952.20	Electrical		✓				★						
0952.30	Plumbing, Pipefitting and Steamfitting						★						
0952.40	Glazing						★						
0952.60	Masonry, Tile, Cement, Lath and Plaster						★						
0952.70	Painting, Decorating, and Flooring						★						
0952.80	Drywall and Insulation						★						
0952.90	Roofing						★						
0953.00	Drafting Technology	✓					★		✓				
0953.10	Architectural Drafting						★						

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
0953.20	Civil Drafting						★						
0954.20	Plastics and Composites	★											
0956.00	Manufacturing and Industrial Technology	★					✓		✓				
0956.40	Sheet Metal and Structural Metal						★						
0956.50	Welding Technology	★											
0956.70	Industrial and Occupational Safety and Health	★											
0957.00	Civil and Construction Management Technology				✓		★						
0957.20	Construction Inspection						★						
0957.30	Surveying	★					✓		✓				
0959.00	Marine Technology	✓	★										
0999.00	Other Engineering and Related Industrial Technologies	✓									★		
1005.00	Commercial Music	✓							★				
1006.00	Technical Theater								✓		★		
1009.00	Applied Design	✓							✓		★		
1012.00	Applied Photography								★				
1013.00	Commercial Art	✓							★				
1030.00	Graphic Art and Design								★				
1099.00	Other Fine and Applied Arts										★		
1201.00	Health Occupations, General							★					
1202.00	Hospital and Health Care Administration				✓	✓		★					

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
1205.00	Medical Laboratory Technology							★		✓			
1205.10	Phlebotomy							★					
1206.00	Physician's Assistant							★					
1208.00	Medical Assisting							★					
1208.10	Clinical Medical Assisting							★					
1208.20	Administrative Medical Assisting				✓			★					
1208.30	Health Facility Unit Coordinator				✓			★					
1209.00	Hospital Central Service Technician							★					
1210.00	Respiratory Care/Therapy							★					
1211.00	Polysomnography							★					
1212.00	Electro-Neurodiagnostic Technology							★					
1213.00	Cardiovascular Technician							★					
1214.00	Orthopedic Assistant							★		✓			
1215.00	Electrocardiography							★					
1217.00	Surgical Technician												
1218.00	Occupational Therapy Technology							★					
1220.00	Speech-Language Pathology and Audiology					✓		★					
1222.00	Physical Therapist Assistant							★					
1223.00	Health Information Technology							★	✓				
1223.10	Health Information Coding							★					
1224.00	School Health Clerk							★					
1225.00	Radiologic Technology							★					

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
1226.00	Radiation Therapy Technician							★					
1227.00	Diagnostic Medical Sonography							★					
1228.00	Athletic Training and Sports Medicine							★			✓		
1230.00	Nursing							★					
1230.10	Registered Nursing							★					
1230.20	Licensed Vocational Nursing							★					
1230.30	Certified Nurse Assistant							★					
1230.80	Home Health Aide							★					
1239.00	Psychiatric Technician							★					
1240.00	Dental Occupations							★					
1240.10	Dental Assistant							★					
1240.20	Dental Hygienist							★					
1250.00	Emergency Medical Services							★					
1251.00	Paramedic							★					
1255.00	Mortuary Science				★								
1261.00	Community Health Care Worker							★					
1262.00	Massage Therapy				★			✓					
1299.00	Other Health Occupations							★					
1301.00	Family and Consumer Sciences, General					✓							★
1301.10	Consumer Services			✓									★
1302.00	Interior Design and Merchandising												★
1303.00	Fashion			✓									★

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
1303.10	Fashion Design												★
1303.20	Fashion Merchandising				✓								★
1303.30	Fashion Production	★											✓
1305.00	Child Development/Early Care and Education			✓		★		✓					
1305.10	Child and Adolescent Development			✓		★		✓					
1305.20	Children with Special Needs					★							
1305.40	Preschool Age Children					★							
1305.50	The School Age Child					★							
1305.60	Parenting and Family Education			✓		★							
1305.70	Foster and Kinship Care			✓		★							
1305.80	Child Development Administration and Management					★							
1305.90	Infants and Toddlers			✓		★		✓					
1306.00	Nutrition, Foods, and Culinary Arts							★					✓
1306.20	Dietetic Services and Management							★					
1306.30	Culinary Arts												★
1307.00	Hospitality				✓								★
1307.10	Restaurant and Food Services and Management							✓					★
1307.20	Lodging Management				✓								★
1307.30	Resort and Club Management				✓								★
1308.00	Family Studies			✓	✓	★							

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
1309.00	Gerontology			✓				★			✓		
1402.00	Paralegal				✓						★		
1920.00	Ocean Technology	★		✓			✓			✓	✓		
2102.00	Public Administration		✓		✓		✓				★		✓
2102.10	Public Works						★				✓		
2104.00	Human Services				✓	✓		✓			★	✓	
2104.40	Alcohol and Controlled Substances							★					
2104.50	Disability Services				✓	✓		✓			★	✓	
2105.00	Administration of Justice				✓					✓		★	✓
2105.10	Corrections					✓			✓			★	
2105.20	Probation and Parole											★	
2105.30	Industrial and Transportation Security				✓							★	✓
2105.40	Forensics, Evidence, and Investigation				✓					✓		★	✓
2105.50	Police Academy											★	
2133.00	Fire Technology				✓							★	✓
2133.10	Wildland Fire Technology											★	
2133.50	Fire Academy											★	
2140.00	Legal and Community Interpretation										★		
2199.00	Other Public and Protective Services											★	
2206.10	Geographic Information Systems				✓				★			✓	✓
3007.00	Cosmetology and Barbering				★★								✓
3009.00	Travel Services and Tourism				✓								★

TOP Code	Program	AM	ATL	AgWET	BE	EDU	ECU	H	ICT/DM	LSBT	O	PS	RHT
3020.00	Aviation and Airport Management and Services	★	★										
3020.10	Aviation and Airport Management		★										
3020.20	Piloting		★										
3020.40	Flight Attendant		✓										★

Appendix D: Occupational Demographics

This section includes detailed demographic data for each occupation analyzed in this report. Each table is sorted by sector, then skill level, then SOC code.

Ethnicity

Exhibit 71 shows the ethnicity for all 338 occupations analyzed in this report. Below middle-skill occupations are indicated with dark shading, middle-skill occupations are denoted with lighter shading, and above middle-skill occupations are not shaded.

Exhibit 71: Ethnicity for Analyzed Occupations

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
Advanced Manufacturing	17-2041	Chemical Engineers	Above Middle-Skill	54%	0%	10%	36%	0%
	17-2061	Computer Hardware Engineers	Above Middle-Skill	51%	0%	4%	43%	2%
	17-2071	Electrical Engineers	Above Middle-Skill	34%	5%	8%	51%	2%
	17-2112	Industrial Engineers	Above Middle-Skill	31%	1%	11%	53%	4%
	17-2141	Mechanical Engineers	Above Middle-Skill	33%	1%	14%	49%	3%
	19-2032	Materials Scientists	Above Middle-Skill	56%	5%	11%	25%	3%
	19-5011	Occupational Health and Safety Specialists	Above Middle-Skill	16%	0%	32%	29%	23%
	27-1021	Commercial and Industrial Designers	Above Middle-Skill	13%	0%	20%	67%	0%
	17-3023	Electrical and Electronic Engineering Technologists and Technicians	Middle-Skill	45%	1%	29%	17%	7%
	17-3026	Industrial Engineering Technologists and Technicians	Middle-Skill	36%	0%	33%	23%	8%
	17-3029	Engineering Technologists and Technicians, Except Drafters, All Other	Middle-Skill	36%	0%	33%	23%	8%
	49-9041	Industrial Machinery Mechanics	Middle-Skill	22%	2%	44%	29%	3%
	51-1011	First-Line Supervisors of Production and Operating Workers	Middle-Skill	21%	1%	41%	36%	2%
Advanced Transportation & Logistics	53-2011	Airline Pilots, Copilots, and Flight Engineers	Above Middle-Skill	12%	0%	15%	73%	0%
	11-3071	Transportation, Storage, and Distribution Managers	Middle-Skill	13%	5%	41%	40%	0%
	13-1081	Logisticians	Middle-Skill	19%	13%	25%	44%	0%
	43-5011	Cargo and Freight	Middle-Skill	80%	0%	7%	12%	0%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
Agriculture, Water & Environmental Technologies		Agents						
	43-5061	Production, Planning, and Expediting Clerks	Middle-Skill	19%	2%	36%	43%	1%
	49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	Middle-Skill	5%	0%	43%	51%	1%
	49-3011	Aircraft Mechanics and Service Technicians	Middle-Skill	38%	1%	24%	32%	5%
	49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	Middle-Skill	11%	0%	67%	22%	1%
	49-3042	Mobile Heavy Equipment Mechanics, Except Engines	Middle-Skill	7%	0%	46%	44%	3%
	53-1041	Aircraft Cargo Handling Supervisors	Middle-Skill	12%	1%	50%	33%	5%
	53-1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	Middle-Skill	12%	1%	50%	33%	5%
	53-2012	Commercial Pilots	Middle-Skill	12%	0%	15%	73%	0%
	53-3052	Bus Drivers, Transit and Intercity	Middle-Skill	16%	17%	52%	14%	0%
	53-4041	Subway and Streetcar Operators	Middle-Skill	0%	47%	0%	53%	0%
	53-7021	Crane and Tower Operators	Middle-Skill	16%	6%	29%	49%	0%
	53-3033	Light Truck Drivers	Below Middle-Skill	11%	3%	57%	28%	2%
	53-3051	Bus Drivers, School	Below Middle-Skill	16%	3%	48%	31%	3%
	53-3053	Shuttle Drivers and Chauffeurs	Below Middle-Skill	14%	5%	42%	37%	2%
	53-3054	Taxi Drivers	Below Middle-Skill	27%	4%	26%	37%	6%
Agriculture, Water & Environmental Technologies	17-2081	Environmental Engineers	Above Middle-Skill	30%	0%	6%	65%	0%
	19-1011	Animal Scientists	Above Middle-Skill	0%	0%	0%	70%	30%
	19-1013	Soil and Plant Scientists	Above Middle-Skill	0%	0%	0%	70%	30%
	19-1023	Zoologists and Wildlife Biologists	Above Middle-Skill	29%	0%	29%	36%	5%
	25-9021	Farm and Home Management Educators	Above Middle-Skill	21%	0%	29%	45%	5%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/ Ethnicity
	29-1131	Veterinarians	Above Middle-Skill	15%	4%	8%	66%	7%
	29-2056	Veterinary Technologists and Technicians	Middle-Skill	19%	0%	22%	51%	8%
	31-9096	Veterinary Assistants and Laboratory Animal Caretakers	Middle-Skill	6%	0%	35%	57%	2%
	37-3013	Tree Trimmers and Pruners	Below Middle-Skill	4%	0%	77%	18%	0%
Business & Entrepreneurship	11-2021	Marketing Managers	Above Middle-Skill	17%	3%	15%	60%	4%
	11-2022	Sales Managers	Above Middle-Skill	13%	1%	10%	70%	5%
	11-2032	Public Relations Managers	Above Middle-Skill	15%	0%	35%	48%	2%
	11-2033	Fundraising Managers	Above Middle-Skill	15%	0%	35%	48%	2%
	11-3031	Financial Managers	Above Middle-Skill	23%	1%	22%	52%	2%
	11-3051	Industrial Production Managers	Above Middle-Skill	25%	2%	20%	52%	1%
	11-3061	Purchasing Managers	Above Middle-Skill	26%	3%	10%	57%	4%
	11-3121	Human Resources Managers	Above Middle-Skill	25%	5%	18%	45%	5%
	11-3131	Training and Development Managers	Above Middle-Skill	13%	0%	17%	70%	0%
	11-9151	Social and Community Service Managers	Above Middle-Skill	11%	11%	31%	43%	3%
	11-9199	Managers, All Other	Above Middle-Skill	19%	2%	18%	57%	4%
	11-1011	Chief Executives	Above Middle-Skill	19%	0%	9%	69%	3%
	13-1071	Human Resources Specialists	Above Middle-Skill	19%	3%	30%	43%	5%
	13-1082	Project Management Specialists	Above Middle-Skill	25%	2%	10%	59%	4%
	13-1111	Management Analysts	Above Middle-Skill	31%	1%	6%	59%	3%
	13-1131	Fundraisers	Above Middle-Skill	4%	0%	9%	83%	4%
	13-1141	Compensation, Benefits, and Job Analysis Specialists	Above Middle-Skill	45%	0%	14%	30%	11%
	13-1161	Market Research Analysts and Marketing Specialists	Above Middle-Skill	23%	1%	15%	55%	6%
	13-1199	Business Operations Specialists, All Other	Above Middle-Skill	29%	4%	16%	48%	3%
	13-2011	Accountants and Auditors	Above Middle-Skill	42%	2%	13%	41%	2%
13-2041	Credit Analysts	Above Middle-Skill	20%	15%	30%	35%	0%	
13-2051	Financial and Investment Analysts	Above Middle-Skill	35%	1%	13%	46%	6%	
13-2052	Personal Financial	Above Middle-Skill	19%	4%	15%	57%	4%	

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
		Advisors						
	13-2053	Insurance Underwriters	Above Middle-Skill	31%	2%	11%	52%	4%
	13-2054	Financial Risk Specialists	Above Middle-Skill	31%	0%	18%	51%	0%
	13-2061	Financial Examiners	Above Middle-Skill	5%	0%	29%	61%	5%
	13-2072	Loan Officers	Above Middle-Skill	21%	1%	21%	53%	4%
	13-2099	Financial Specialists, All Other	Above Middle-Skill	31%	0%	18%	51%	0%
	15-2011	Actuaries	Above Middle-Skill	36%	0%	2%	61%	0%
	15-2031	Operations Research Analysts	Above Middle-Skill	41%	0%	10%	40%	9%
	19-3032	Industrial-Organizational Psychologists	Above Middle-Skill	7%	0%	16%	75%	2%
	27-3031	Public Relations Specialists	Above Middle-Skill	9%	2%	16%	68%	5%
	41-3031	Securities, Commodities, and Financial Services Sales Agents	Above Middle-Skill	24%	2%	20%	50%	4%
	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Above Middle-Skill	16%	3%	16%	63%	2%
	41-9031	Sales Engineers	Above Middle-Skill	15%	0%	6%	69%	10%
	11-3012	Administrative Services Managers	Middle-Skill	32%	0%	11%	54%	3%
	11-3013	Facilities Managers	Middle-Skill	3%	4%	18%	67%	7%
	11-9141	Property, Real Estate, and Community Association Managers	Middle-Skill	15%	1%	29%	53%	2%
	11-9171	Funeral Home Managers	Middle-Skill	19%	2%	18%	57%	4%
	11-1021	General and Operations Managers	Middle-Skill	19%	1%	17%	59%	4%
	13-1028	Buyers and Purchasing Agents	Middle-Skill	22%	3%	21%	50%	3%
	13-1031	Claims Adjusters, Examiners, and Investigators	Middle-Skill	17%	4%	23%	50%	5%
	13-1051	Cost Estimators	Middle-Skill	5%	0%	21%	73%	1%
	13-2028	Property Appraisers and Assessors	Middle-Skill	20%	0%	14%	62%	3%
	23-2093	Title Examiners, Abstractors, and	Middle-Skill	17%	1%	30%	51%	2%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
		Searchers						
	39-5012	Hairdressers, Hairstylists, and Cosmetologists	Middle-Skill	21%	0%	27%	50%	3%
	39-5091	Makeup Artists, Theatrical and Performance	Middle-Skill	54%	0%	13%	33%	0%
	39-5092	Manicurists and Pedicurists	Middle-Skill	88%	0%	3%	8%	1%
	39-5094	Skincare Specialists	Middle-Skill	38%	3%	18%	36%	4%
	41-1012	First-Line Supervisors of Non-Retail Sales Workers	Middle-Skill	24%	0%	22%	51%	2%
	41-3021	Insurance Sales Agents	Middle-Skill	17%	1%	25%	56%	1%
	41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	Middle-Skill	16%	3%	16%	63%	2%
	41-9021	Real Estate Brokers	Middle-Skill	22%	1%	15%	59%	3%
	43-1011	First-Line Supervisors of Office and Administrative Support Workers	Middle-Skill	21%	2%	30%	44%	3%
	43-3051	Payroll and Timekeeping Clerks	Middle-Skill	21%	1%	41%	35%	2%
	43-4011	Brokerage Clerks	Middle-Skill	26%	0%	35%	37%	1%
	43-4171	Receptionists and Information Clerks	Middle-Skill	13%	1%	44%	38%	4%
	43-6011	Executive Secretaries and Executive Administrative Assistants	Middle-Skill	24%	2%	27%	45%	2%
	41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Below Middle-Skill	15%	1%	20%	63%	1%
Education & Human Development	11-9032	Education Administrators, Kindergarten through Secondary	Above Middle-Skill	15%	3%	24%	55%	3%
	11-9033	Education Administrators, Postsecondary	Above Middle-Skill	15%	3%	24%	55%	3%
	11-9039	Education Administrators, All	Above Middle-Skill	15%	3%	24%	55%	3%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
		Other						
	13-1151	Training and Development Specialists	Above Middle-Skill	32%	0%	22%	46%	0%
	21-1012	Educational, Guidance, and Career Counselors and Advisors	Above Middle-Skill	15%	3%	35%	41%	6%
	21-1013	Marriage and Family Therapists	Above Middle-Skill	11%	0%	22%	68%	0%
	21-1019	Counselors, All Other	Above Middle-Skill	17%	1%	33%	45%	4%
	21-1021	Child, Family, and School Social Workers	Above Middle-Skill	18%	0%	38%	44%	0%
	21-1099	Community and Social Service Specialists, All Other	Above Middle-Skill	11%	0%	37%	47%	5%
	25-1099	Postsecondary teachers, all other	Above Middle-Skill	22%	4%	12%	59%	4%
	25-2021	Elementary School Teachers, Except Special Education	Above Middle-Skill	12%	1%	21%	63%	3%
	25-2022	Middle School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	12%	1%	21%	63%	3%
	25-2031	Secondary School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	12%	1%	17%	65%	4%
	25-2032	Career/Technical Education Teachers, Secondary School	Above Middle-Skill	12%	1%	17%	65%	4%
	25-2051	Special Education Teachers, Preschool	Above Middle-Skill	10%	4%	26%	59%	1%
	25-2052	Special Education Teachers, Kindergarten and Elementary School	Above Middle-Skill	10%	4%	26%	59%	1%
	25-2057	Special Education Teachers, Middle School	Above Middle-Skill	10%	4%	26%	59%	1%
	25-2058	Special Education Teachers, Secondary School	Above Middle-Skill	10%	4%	26%	59%	1%
	25-2059	Special Education Teachers, All Other	Above Middle-Skill	10%	4%	26%	59%	1%
	25-3031	Substitute Teachers, Short-Term	Above Middle-Skill	22%	0%	20%	53%	4%
	25-3041	Tutors	Above Middle-Skill	34%	0%	30%	34%	2%
	25-3099	Teachers and	Above Middle-Skill	22%	0%	20%	53%	4%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
		Instructors, All Other						
	25-4022	Librarians and Media Collections Specialists	Above Middle-Skill	14%	2%	21%	61%	3%
	25-9031	Instructional Coordinators	Above Middle-Skill	21%	0%	29%	45%	5%
	25-2011	Preschool Teachers, Except Special Education	Middle-Skill	19%	0%	27%	48%	6%
	25-2012	Kindergarten Teachers, Except Special Education	Middle-Skill	19%	0%	27%	48%	6%
	25-9044	Teaching Assistants, Postsecondary	Middle-Skill	18%	2%	39%	36%	5%
	25-9045	Teaching Assistants, Except Postsecondary	Middle-Skill	18%	2%	39%	36%	5%
	25-3021	Self-Enrichment Teachers	Below Middle-Skill	22%	0%	20%	53%	4%
Energy, Construction & Utilities	11-9021	Construction Managers	Above Middle-Skill	10%	1%	19%	67%	2%
	11-9041	Architectural and Engineering Managers	Above Middle-Skill	33%	0%	5%	55%	6%
	17-1011	Architects, Except Landscape and Naval	Above Middle-Skill	20%	0%	15%	64%	2%
	17-1022	Surveyors	Above Middle-Skill	14%	0%	0%	86%	0%
	17-2051	Civil Engineers	Above Middle-Skill	36%	0%	10%	51%	3%
	17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	Above Middle-Skill	12%	0%	0%	88%	0%
	17-2161	Nuclear Engineers	Above Middle-Skill	49%	2%	11%	36%	2%
	17-2171	Petroleum Engineers	Above Middle-Skill	12%	0%	0%	88%	0%
	19-2041	Environmental Scientists and Specialists, Including Health	Above Middle-Skill	23%	0%	0%	73%	4%
	19-2042	Geoscientists, Except Hydrologists and Geographers	Above Middle-Skill	16%	0%	14%	60%	10%
	17-3011	Architectural and Civil Drafters	Middle-Skill	57%	0%	6%	35%	2%
	17-3022	Civil Engineering Technologists and Technicians	Middle-Skill	36%	0%	33%	23%	8%
	17-3031	Surveying and Mapping Technicians	Middle-Skill	0%	0%	17%	83%	0%
	19-4043	Geological Technicians, Except Hydrologic	Middle-Skill	51%	0%	0%	22%	27%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
		Technicians						
	19-4051	Nuclear Technicians	Middle-Skill	51%	0%	0%	22%	27%
	47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	Middle-Skill	5%	0%	41%	52%	1%
	47-2071	Paving, Surfacing, and Tamping Equipment Operators	Middle-Skill	1%	0%	53%	46%	0%
	47-2073	Operating Engineers and Other Construction Equipment Operators	Middle-Skill	1%	0%	53%	46%	0%
	47-2111	Electricians	Middle-Skill	10%	1%	45%	40%	4%
	47-2152	Plumbers, Pipefitters, and Steamfitters	Middle-Skill	6%	0%	58%	34%	2%
	47-2211	Sheet Metal Workers	Middle-Skill	24%	6%	29%	41%	0%
	47-2231	Solar Photovoltaic Installers	Middle-Skill	11%	0%	73%	10%	7%
	47-4011	Construction and Building Inspectors	Middle-Skill	7%	0%	25%	67%	1%
	49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	Middle-Skill	14%	4%	33%	40%	9%
	49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Middle-Skill	51%	0%	35%	14%	0%
	49-2098	Security and Fire Alarm Systems Installers	Middle-Skill	5%	0%	48%	47%	0%
	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Middle-Skill	9%	0%	40%	48%	2%
	49-9052	Telecommunications Line Installers and Repairers	Middle-Skill	6%	2%	32%	54%	6%
	49-9081	Wind Turbine Service Technicians	Middle-Skill	11%	0%	38%	48%	3%
	51-8011	Nuclear Power Reactor Operators	Middle-Skill	7%	0%	0%	93%	0%
	51-8021	Stationary Engineers and Boiler	Middle-Skill	16%	0%	23%	61%	0%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
		Operators						
	47-2051	Cement Masons and Concrete Finishers	Below Middle-Skill	0%	0%	100%	0%	0%
	47-2081	Drywall and Ceiling Tile Installers	Below Middle-Skill	0%	0%	95%	5%	0%
	47-2161	Plasterers and Stucco Masons	Below Middle-Skill	0%	0%	79%	21%	0%
	47-2181	Roofers	Below Middle-Skill	3%	0%	82%	15%	0%
Health	11-9111	Medical and Health Services Managers	Above Middle-Skill	38%	2%	14%	43%	4%
	19-1041	Epidemiologists	Above Middle-Skill	46%	0%	4%	34%	16%
	19-1042	Medical Scientists, Except Epidemiologists	Above Middle-Skill	46%	0%	4%	34%	16%
	19-3033	Clinical and Counseling Psychologists	Above Middle-Skill	34%	0%	0%	66%	0%
	19-3034	School Psychologists	Above Middle-Skill	30%	0%	18%	50%	3%
	19-3039	Psychologists, All Other	Above Middle-Skill	7%	0%	16%	75%	2%
	21-1015	Rehabilitation Counselors	Above Middle-Skill	10%	0%	41%	31%	19%
	21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Above Middle-Skill	20%	0%	47%	34%	0%
	21-1022	Healthcare Social Workers	Above Middle-Skill	8%	0%	31%	61%	0%
	21-1023	Mental Health and Substance Abuse Social Workers	Above Middle-Skill	0%	4%	64%	32%	0%
	21-1029	Social Workers, All Other	Above Middle-Skill	23%	3%	42%	29%	4%
	21-1091	Health Education Specialists	Above Middle-Skill	11%	0%	37%	47%	5%
	29-1011	Chiropractors	Above Middle-Skill	36%	0%	12%	49%	4%
	29-1021	Dentists, General	Above Middle-Skill	44%	0%	6%	47%	2%
	29-1022	Oral and Maxillofacial Surgeons	Above Middle-Skill	44%	0%	6%	47%	2%
	29-1023	Orthodontists	Above Middle-Skill	44%	0%	6%	47%	2%
	29-1024	Prosthodontists	Above Middle-Skill	44%	0%	6%	47%	2%
	29-1031	Dietitians and Nutritionists	Above Middle-Skill	15%	0%	22%	63%	0%
	29-1041	Optometrists	Above Middle-Skill	58%	0%	8%	33%	1%
	29-1051	Pharmacists	Above Middle-Skill	76%	0%	1%	17%	7%
	29-1071	Physician Assistants	Above Middle-Skill	31%	0%	9%	56%	5%
	29-1081	Podiatrists	Above Middle-Skill	26%	0%	0%	63%	11%
29-1122	Occupational Therapists	Above Middle-Skill	50%	0%	8%	42%	0%	
29-1123	Physical Therapists	Above Middle-Skill	38%	0%	11%	48%	2%	

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/ Ethnicity
	29-1125	Recreational Therapists	Above Middle-Skill	100%	0%	0%	0%	0%
	29-1127	Speech-Language Pathologists	Above Middle-Skill	9%	0%	25%	64%	3%
	29-1151	Nurse Anesthetists	Above Middle-Skill	21%	0%	0%	79%	0%
	29-1161	Nurse Midwives	Above Middle-Skill	48%	2%	15%	33%	2%
	29-1171	Nurse Practitioners	Above Middle-Skill	48%	2%	15%	33%	2%
	29-1181	Audiologists	Above Middle-Skill	16%	0%	26%	52%	5%
	29-1211	Anesthesiologists	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1213	Dermatologists	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1214	Emergency Medicine Physicians	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1215	Family Medicine Physicians	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1216	General Internal Medicine Physicians	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1218	Obstetricians and Gynecologists	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1221	Pediatricians, General	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1222	Physicians, Pathologists	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1223	Psychiatrists	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1224	Radiologists	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1229	Physicians, All Other	Above Middle-Skill	48%	0%	7%	39%	6%
	29-1291	Acupuncturists	Above Middle-Skill	67%	0%	0%	33%	0%
	29-2091	Orthotists and Prosthetists	Above Middle-Skill	28%	5%	8%	47%	12%
	29-9092	Genetic Counselors	Above Middle-Skill	23%	0%	21%	53%	3%
	21-1093	Social and Human Service Assistants	Middle-Skill	20%	5%	41%	34%	0%
	21-1094	Community Health Workers	Middle-Skill	11%	0%	37%	47%	5%
	29-1124	Radiation Therapists	Middle-Skill	44%	0%	13%	43%	0%
	29-1126	Respiratory Therapists	Middle-Skill	39%	0%	21%	40%	0%
	29-1141	Registered Nurses	Middle-Skill	41%	2%	13%	42%	3%
	29-1292	Dental Hygienists	Middle-Skill	29%	0%	15%	55%	1%
	29-2031	Cardiovascular Technologists and Technicians	Middle-Skill	27%	0%	52%	21%	0%
	29-2032	Diagnostic Medical Sonographers	Middle-Skill	31%	4%	16%	42%	7%
	29-2033	Nuclear Medicine Technologists	Middle-Skill	28%	33%	26%	13%	0%
	29-2034	Radiologic Technologists and Technicians	Middle-Skill	23%	2%	37%	36%	2%
	29-2035	Magnetic Resonance Imaging Technologists	Middle-Skill	19%	0%	11%	50%	19%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/ Ethnicity	
	29-2042	Emergency Medical Technicians	Middle-Skill	25%	5%	34%	28%	9%	
	29-2043	Paramedics	Middle-Skill	22%	2%	18%	55%	4%	
	29-2053	Psychiatric Technicians	Middle-Skill	23%	15%	19%	32%	11%	
	29-2055	Surgical Technologists	Middle-Skill	16%	0%	29%	29%	27%	
	29-2061	Licensed Practical and Licensed Vocational Nurses	Middle-Skill	38%	2%	36%	23%	1%	
	29-2072	Medical Records Specialists	Middle-Skill	29%	7%	23%	27%	14%	
	29-2081	Opticians, Dispensing	Middle-Skill	28%	0%	49%	23%	0%	
	29-2099	Health Technologists and Technicians, All Other	Middle-Skill	28%	5%	8%	47%	12%	
	29-9021	Health Information Technologists and Medical Registrars	Middle-Skill	23%	0%	21%	53%	3%	
	31-1128	Home Health and Personal Care Aides	Middle-Skill	39%	6%	30%	22%	4%	
	31-1131	Nursing Assistants	Middle-Skill	24%	5%	49%	20%	1%	
	31-2011	Occupational Therapy Assistants	Middle-Skill	27%	20%	18%	35%	0%	
	31-2012	Occupational Therapy Aides	Middle-Skill	27%	20%	18%	35%	0%	
	31-2021	Physical Therapist Assistants	Middle-Skill	31%	0%	35%	30%	3%	
	31-2022	Physical Therapist Aides	Middle-Skill	31%	0%	35%	30%	3%	
	31-9011	Massage Therapists	Middle-Skill	25%	2%	10%	50%	5%	
	31-9091	Dental Assistants	Middle-Skill	16%	0%	47%	35%	3%	
	31-9092	Medical Assistants	Middle-Skill	15%	2%	68%	14%	1%	
	31-9093	Medical Equipment Preparers	Middle-Skill	23%	0%	55%	21%	1%	
	31-9097	Phlebotomists	Middle-Skill	45%	0%	25%	31%	0%	
	31-9099	Healthcare Support Workers, All Other	Middle-Skill	23%	0%	55%	21%	1%	
	43-6013	Medical Secretaries and Administrative Assistants	Middle-Skill	14%	0%	24%	58%	4%	
	39-9041	Residential Advisors	Below Middle-Skill	12%	5%	35%	39%	8%	
	51-9082	Medical Appliance Technicians	Below Middle-Skill	58%	0%	24%	17%	0%	
	Information and Communication Technologies (ICT)/Digital	11-3021	Computer and Information Systems Managers	Above Middle-Skill	29%	1%	12%	52%	5%
		15-1211	Computer Systems Analysts	Above Middle-Skill	37%	3%	12%	40%	8%
15-1212		Information Security Analysts	Above Middle-Skill	20%	0%	2%	53%	25%	

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
	15-1221	Computer and Information Research Scientists	Above Middle-Skill	45%	0%	18%	34%	4%
	15-1242	Database Administrators	Above Middle-Skill	39%	0%	15%	37%	9%
	15-1243	Database Architects	Above Middle-Skill	39%	0%	15%	37%	9%
	15-1251	Computer Programmers	Above Middle-Skill	40%	1%	13%	39%	6%
	15-1252	Software Developers	Above Middle-Skill	49%	1%	8%	38%	4%
	15-1253	Software Quality Assurance Analysts and Testers	Above Middle-Skill	57%	0%	9%	31%	4%
	15-1299	Computer Occupations, All Other	Above Middle-Skill	28%	1%	21%	47%	3%
	15-2051	Data Scientists	Above Middle-Skill	29%	2%	13%	55%	1%
	17-1021	Cartographers and Photogrammetrists	Above Middle-Skill	14%	0%	0%	86%	0%
	17-2072	Electronics Engineers, Except Computer	Above Middle-Skill	34%	5%	8%	51%	2%
	27-1011	Art Directors	Above Middle-Skill	16%	1%	10%	70%	3%
	27-1014	Special Effects Artists and Animators	Above Middle-Skill	16%	1%	10%	70%	3%
	27-1024	Graphic Designers	Above Middle-Skill	26%	2%	16%	52%	4%
	27-2012	Producers and Directors	Above Middle-Skill	10%	1%	21%	64%	4%
	27-2041	Music Directors and Composers	Above Middle-Skill	4%	0%	18%	74%	4%
	15-1231	Computer Network Support Specialists	Middle-Skill	28%	1%	15%	51%	4%
	15-1232	Computer User Support Specialists	Middle-Skill	28%	1%	15%	51%	4%
	15-1241	Computer Network Architects	Middle-Skill	33%	0%	11%	53%	3%
	15-1244	Network and Computer Systems Administrators	Middle-Skill	22%	0%	19%	58%	1%
	15-1254	Web Developers	Middle-Skill	19%	0%	19%	58%	4%
	15-1255	Web and Digital Interface Designers	Middle-Skill	25%	3%	17%	55%	0%
	27-4011	Audio and Video Technicians	Middle-Skill	2%	0%	37%	58%	3%
	27-4012	Broadcast Technicians	Middle-Skill	2%	0%	37%	58%	3%
	27-4021	Photographers	Middle-Skill	12%	1%	27%	54%	6%
	27-2099	Entertainers and Performers, Sports and Related Workers, All Other	Below Middle-Skill	13%	4%	19%	54%	10%
	27-3099	Media and Communication	Below Middle-Skill	22%	0%	43%	35%	0%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/ Ethnicity
		Workers, All Other						
	27-4015	Lighting Technicians	Below Middle-Skill	2%	0%	37%	58%	3%
Life Sciences/Biotech	17-2031	Bioengineers and Biomedical Engineers	Above Middle-Skill	48%	0%	0%	52%	0%
	19-1029	Biological Scientists, All Other	Above Middle-Skill	29%	0%	29%	36%	5%
	19-4099	Life, Physical, and Social Science Technicians, All Other	Middle-Skill	38%	2%	23%	35%	3%
	29-2018	Clinical Laboratory Technologists and Technicians	Middle-Skill	47%	2%	22%	22%	7%
	49-9062	Medical Equipment Repairers	Middle-Skill	26%	0%	49%	26%	0%
Public Safety	11-9161	Emergency Management Directors	Above Middle-Skill	31%	0%	0%	0%	69%
	21-1092	Probation Officers and Correctional Treatment Specialists	Above Middle-Skill	2%	10%	57%	31%	0%
	19-4092	Forensic Science Technicians	Middle-Skill	38%	2%	23%	35%	3%
	33-1011	First-Line Supervisors of Correctional Officers	Middle-Skill	0%	58%	0%	0%	42%
	33-1012	First-Line Supervisors of Police and Detectives	Middle-Skill	0%	4%	27%	67%	2%
	33-1021	First-Line Supervisors of Firefighting and Prevention Workers	Middle-Skill	7%	1%	10%	82%	0%
	33-1099	First-Line Supervisors of Protective Service Workers, All Other	Middle-Skill	13%	0%	56%	26%	5%
	33-2011	Firefighters	Middle-Skill	2%	2%	15%	77%	3%
	33-2022	Forest Fire Inspectors and Prevention Specialists	Middle-Skill	0%	0%	37%	63%	0%
	33-3012	Correctional Officers and Jailers	Middle-Skill	15%	1%	66%	17%	1%
	33-3051	Police and Sheriff's Patrol Officers	Middle-Skill	11%	2%	30%	51%	6%
	43-5031	Public Safety Telecommunicators	Middle-Skill	0%	0%	5%	81%	14%
	33-9091	Crossing Guards and Flaggers	Below Middle-Skill	0%	0%	54%	46%	0%
	33-9092	Lifeguards, Ski Patrol, and Other Recreational	Below Middle-Skill	3%	2%	30%	62%	3%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
		Protective Service Workers						
	33-9099	Protective Service Workers, All Other	Below Middle-Skill	3%	2%	30%	62%	3%
Retail, Hospitality & Tourism	11-9072	Entertainment and Recreation Managers, Except Gambling	Above Middle-Skill	25%	0%	32%	38%	6%
	13-1121	Meeting, Convention, and Event Planners	Above Middle-Skill	14%	0%	20%	65%	2%
	27-1022	Fashion Designers	Above Middle-Skill	32%	0%	17%	43%	8%
	27-1025	Interior Designers	Above Middle-Skill	9%	0%	10%	78%	2%
	11-9071	Gambling Managers	Middle-Skill	25%	0%	32%	38%	6%
	11-9081	Lodging Managers	Middle-Skill	29%	12%	6%	52%	0%
	35-1011	Chefs and Head Cooks	Middle-Skill	32%	2%	48%	15%	4%
	39-1014	First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services	Middle-Skill	48%	6%	4%	35%	7%
	39-1022	First-Line Supervisors of Personal Service Workers	Middle-Skill	48%	6%	4%	35%	7%
	39-7018	Tour and Travel Guides	Middle-Skill	22%	7%	5%	58%	8%
	43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	Middle-Skill	15%	0%	21%	60%	5%
	35-2014	Cooks, Restaurant	Below Middle-Skill	11%	1%	75%	12%	2%
	39-9032	Recreation Workers	Below Middle-Skill	5%	3%	35%	50%	7%
	39-9099	Personal Care and Service Workers, All Other	Below Middle-Skill	12%	2%	17%	63%	7%
Other	11-9121	Natural Sciences Managers	Above Middle-Skill	55%	0%	0%	45%	0%
	13-1041	Compliance Officers	Above Middle-Skill	21%	1%	18%	58%	2%
	15-2041	Statisticians	Above Middle-Skill	29%	2%	13%	55%	1%
	15-2099	Mathematical Science Occupations, All Other	Above Middle-Skill	29%	2%	13%	55%	1%
	17-2011	Aerospace Engineers	Above Middle-Skill	38%	0%	8%	50%	4%
	17-2199	Engineers, All Other	Above Middle-Skill	49%	2%	11%	36%	2%
	19-1021	Biochemists and Biophysicists	Above Middle-Skill	29%	0%	29%	36%	5%
	19-1022	Microbiologists	Above Middle-Skill	29%	0%	29%	36%	5%
	19-2012	Physicists	Above Middle-Skill	84%	0%	0%	16%	0%
	19-2021	Atmospheric and Space Scientists	Above Middle-Skill	0%	0%	0%	52%	48%

Sector	SOC	Occupation	Skill Level	Asian	Black or African American	Hispanic or Latino	White	Other Race/Ethnicity
	19-2031	Chemists	Above Middle-Skill	56%	5%	11%	25%	3%
	19-3011	Economists	Above Middle-Skill	26%	0%	24%	50%	0%
	19-3094	Political Scientists	Above Middle-Skill	31%	0%	42%	27%	0%
	19-3099	Social Scientists and Related Workers, All Other	Above Middle-Skill	31%	0%	42%	27%	0%
	21-2011	Clergy	Above Middle-Skill	25%	3%	11%	59%	3%
	21-2021	Directors, Religious Activities and Education	Above Middle-Skill	5%	3%	28%	62%	2%
	23-1011	Lawyers	Above Middle-Skill	15%	2%	10%	70%	3%
	23-1022	Arbitrators, Mediators, and Conciliators	Above Middle-Skill	15%	2%	10%	70%	3%
	23-1023	Judges, Magistrate Judges, and Magistrates	Above Middle-Skill	15%	2%	10%	70%	3%
	27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Above Middle-Skill	16%	1%	10%	70%	3%
	27-2022	Coaches and Scouts	Above Middle-Skill	8%	4%	26%	61%	3%
	27-3041	Editors	Above Middle-Skill	14%	1%	8%	76%	2%
	27-3042	Technical Writers	Above Middle-Skill	41%	0%	5%	51%	3%
	19-4061	Social Science Research Assistants	Middle-Skill	38%	2%	23%	35%	3%
	23-2011	Paralegals and Legal Assistants	Middle-Skill	14%	0%	33%	47%	6%
	27-3091	Interpreters and Translators	Middle-Skill	24%	0%	32%	43%	2%
	39-9031	Exercise Trainers and Group Fitness Instructors	Middle-Skill	10%	8%	29%	48%	6%
	43-4031	Court, Municipal, and License Clerks	Middle-Skill	12%	3%	43%	42%	0%
	33-9011	Animal Control Workers	Below Middle-Skill	0%	0%	81%	19%	0%
	43-4061	Eligibility Interviewers, Government Programs	Below Middle-Skill	27%	3%	43%	26%	2%
	53-6041	Traffic Technicians	Below Middle-Skill	42%	0%	18%	41%	0%

Age

Exhibit 72 shows the age for all 338 occupations analyzed in this report. Below middle-skill occupations are indicated with dark shading, middle-skill occupations are denoted with lighter shading, and above middle-skill occupations are not shaded.

Exhibit 72: Age for Analyzed Occupations

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
Advanced Manufacturing	17-2041	Chemical Engineers	Above Middle-Skill	0%	7%	38%	40%	16%
	17-2061	Computer Hardware Engineers	Above Middle-Skill	0%	8%	14%	39%	39%
	17-2071	Electrical Engineers	Above Middle-Skill	0%	3%	19%	37%	41%
	17-2112	Industrial Engineers	Above Middle-Skill	0%	5%	27%	28%	41%
	17-2141	Mechanical Engineers	Above Middle-Skill	0%	6%	25%	31%	38%
	19-2032	Materials Scientists	Above Middle-Skill	0%	1%	41%	24%	33%
	19-5011	Occupational Health and Safety Specialists	Above Middle-Skill	0%	3%	48%	15%	35%
	27-1021	Commercial and Industrial Designers	Above Middle-Skill	0%	16%	34%	21%	29%
	17-3023	Electrical and Electronic Engineering Technologists and Technicians	Middle-Skill	3%	3%	20%	30%	45%
	17-3026	Industrial Engineering Technologists and Technicians	Middle-Skill	1%	8%	17%	30%	44%
	17-3029	Engineering Technologists and Technicians, Except Drafters, All Other	Middle-Skill	1%	8%	17%	30%	44%
	49-9041	Industrial Machinery Mechanics	Middle-Skill	0%	2%	10%	27%	61%
	51-1011	First-Line Supervisors of Production and Operating Workers	Middle-Skill	0%	5%	21%	38%	37%
Advanced Transportation & Logistics	53-2011	Airline Pilots, Copilots, and Flight Engineers	Above Middle-Skill	0%	1%	11%	39%	49%
	11-3071	Transportation, Storage, and Distribution Managers	Middle-Skill	0%	4%	30%	31%	36%
	13-1081	Logisticians	Middle-Skill	0%	6%	21%	45%	28%
	43-5011	Cargo and Freight Agents	Middle-Skill	0%	0%	12%	22%	66%
	43-5061	Production, Planning, and Expediting Clerks	Middle-Skill	0%	13%	26%	31%	30%
	49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	Middle-Skill	0%	0%	9%	44%	46%
	49-3011	Aircraft Mechanics and Service Technicians	Middle-Skill	0%	6%	23%	25%	46%
	49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	Middle-Skill	0%	14%	11%	24%	51%

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	49-3042	Mobile Heavy Equipment Mechanics, Except Engines	Middle-Skill	0%	10%	29%	26%	35%
	53-1041	Aircraft Cargo Handling Supervisors	Middle-Skill	0%	6%	27%	38%	29%
	53-1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	Middle-Skill	0%	6%	27%	38%	29%
	53-2012	Commercial Pilots	Middle-Skill	0%	1%	11%	39%	49%
	53-3052	Bus Drivers, Transit and Intercity	Middle-Skill	1%	9%	12%	29%	49%
	53-4041	Subway and Streetcar Operators	Middle-Skill	0%	0%	0%	47%	53%
	53-7021	Crane and Tower Operators	Middle-Skill	0%	0%	13%	16%	70%
	53-3033	Light Truck Drivers	Below Middle-Skill	1%	10%	20%	31%	38%
	53-3051	Bus Drivers, School	Below Middle-Skill	2%	5%	16%	30%	47%
	53-3053	Shuttle Drivers and Chauffeurs	Below Middle-Skill	0%	4%	22%	19%	55%
53-3054	Taxi Drivers	Below Middle-Skill	0%	7%	20%	28%	45%	
Agriculture, Water & Environmental Technologies	17-2081	Environmental Engineers	Above Middle-Skill	0%	2%	21%	21%	56%
	19-1011	Animal Scientists	Above Middle-Skill	0%	0%	23%	47%	29%
	19-1013	Soil and Plant Scientists	Above Middle-Skill	0%	0%	23%	47%	29%
	19-1023	Zoologists and Wildlife Biologists	Above Middle-Skill	0%	13%	27%	33%	27%
	25-9021	Farm and Home Management Educators	Above Middle-Skill	6%	12%	25%	27%	29%
	29-1131	Veterinarians	Above Middle-Skill	0%	0%	24%	47%	29%
	29-2056	Veterinary Technologists and Technicians	Middle-Skill	3%	20%	44%	29%	4%
	31-9096	Veterinary Assistants and Laboratory Animal Caretakers	Middle-Skill	3%	27%	58%	8%	4%
37-3013	Tree Trimmers and Pruners	Below Middle-Skill	0%	3%	12%	36%	50%	
Business & Entrepreneurship	11-2021	Marketing Managers	Above Middle-Skill	1%	5%	29%	40%	25%
	11-2022	Sales Managers	Above Middle-Skill	0%	4%	18%	43%	35%
	11-2032	Public Relations Managers	Above Middle-Skill	0%	3%	44%	33%	20%
	11-2033	Fundraising Managers	Above Middle-Skill	0%	3%	44%	33%	20%
	11-3031	Financial Managers	Above Middle-Skill	0%	3%	25%	39%	33%
	11-3051	Industrial Production Managers	Above Middle-Skill	0%	2%	25%	37%	36%
	11-3061	Purchasing Managers	Above Middle-Skill	0%	1%	20%	36%	43%
	11-3121	Human Resources Managers	Above Middle-Skill	0%	2%	18%	36%	44%
11-3131	Training and Development Managers	Above Middle-Skill	0%	0%	25%	49%	26%	

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	11-9151	Social and Community Service Managers	Above Middle-Skill	0%	6%	22%	25%	47%
	11-9199	Managers, All Other	Above Middle-Skill	0%	3%	18%	36%	43%
	11-1011	Chief Executives	Above Middle-Skill	0%	0%	6%	33%	61%
	13-1071	Human Resources Specialists	Above Middle-Skill	0%	12%	29%	35%	24%
	13-1082	Project Management Specialists	Above Middle-Skill	0%	1%	26%	37%	36%
	13-1111	Management Analysts	Above Middle-Skill	0%	2%	20%	37%	40%
	13-1131	Fundraisers	Above Middle-Skill	0%	0%	24%	27%	48%
	13-1141	Compensation, Benefits, and Job Analysis Specialists	Above Middle-Skill	0%	3%	29%	45%	23%
	13-1161	Market Research Analysts and Marketing Specialists	Above Middle-Skill	2%	5%	39%	33%	21%
	13-1199	Business Operations Specialists, All Other	Above Middle-Skill	0%	12%	23%	41%	24%
	13-2011	Accountants and Auditors	Above Middle-Skill	0%	4%	26%	34%	36%
	13-2041	Credit Analysts	Above Middle-Skill	0%	0%	32%	52%	16%
	13-2051	Financial and Investment Analysts	Above Middle-Skill	0%	9%	38%	36%	17%
	13-2052	Personal Financial Advisors	Above Middle-Skill	0%	2%	25%	30%	44%
	13-2053	Insurance Underwriters	Above Middle-Skill	0%	2%	24%	41%	33%
	13-2054	Financial Risk Specialists	Above Middle-Skill	0%	2%	19%	26%	54%
	13-2061	Financial Examiners	Above Middle-Skill	0%	33%	34%	12%	21%
	13-2072	Loan Officers	Above Middle-Skill	0%	5%	21%	36%	38%
	13-2099	Financial Specialists, All Other	Above Middle-Skill	0%	2%	19%	26%	54%
	15-2011	Actuaries	Above Middle-Skill	0%	0%	29%	59%	13%
	15-2031	Operations Research Analysts	Above Middle-Skill	0%	1%	18%	50%	31%
	19-3032	Industrial-Organizational Psychologists	Above Middle-Skill	0%	2%	20%	28%	50%
	27-3031	Public Relations Specialists	Above Middle-Skill	1%	13%	33%	32%	21%
	41-3031	Securities, Commodities, and Financial Services Sales Agents	Above Middle-Skill	0%	3%	20%	38%	39%
	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Above Middle-Skill	0%	3%	19%	35%	42%
	41-9031	Sales Engineers	Above Middle-Skill	0%	0%	16%	41%	43%
	11-3012	Administrative Services Managers	Middle-Skill	0%	0%	26%	30%	43%
	11-3013	Facilities Managers	Middle-Skill	0%	4%	15%	24%	57%

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	11-9141	Property, Real Estate, and Community Association Managers	Middle-Skill	0%	2%	21%	29%	47%
	11-9171	Funeral Home Managers	Middle-Skill	0%	3%	18%	36%	43%
	11-1021	General and Operations Managers	Middle-Skill	0%	3%	23%	45%	30%
	13-1028	Buyers and Purchasing Agents	Middle-Skill	0%	2%	30%	32%	36%
	13-1031	Claims Adjusters, Examiners, and Investigators	Middle-Skill	0%	0%	24%	37%	38%
	13-1051	Cost Estimators	Middle-Skill	0%	3%	21%	29%	46%
	13-2028	Property Appraisers and Assessors	Middle-Skill	0%	2%	13%	33%	52%
	23-2093	Title Examiners, Abstractors, and Searchers	Middle-Skill	0%	1%	17%	47%	35%
	39-5012	Hairdressers, Hairstylists, and Cosmetologists	Middle-Skill	1%	10%	19%	29%	42%
	39-5091	Makeup Artists, Theatrical and Performance	Middle-Skill	0%	2%	33%	46%	19%
	39-5092	Manicurists and Pedicurists	Middle-Skill	0%	1%	15%	45%	39%
	39-5094	Skincare Specialists	Middle-Skill	4%	5%	31%	32%	28%
	41-1012	First-Line Supervisors of Non-Retail Sales Workers	Middle-Skill	0%	4%	18%	32%	45%
	41-3021	Insurance Sales Agents	Middle-Skill	1%	4%	22%	30%	44%
	41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	Middle-Skill	0%	3%	19%	35%	42%
	41-9021	Real Estate Brokers	Middle-Skill	0%	3%	16%	31%	50%
	43-1011	First-Line Supervisors of Office and Administrative Support Workers	Middle-Skill	0%	3%	21%	31%	45%
	43-3051	Payroll and Timekeeping Clerks	Middle-Skill	0%	1%	17%	44%	38%
	43-4011	Brokerage Clerks	Middle-Skill	8%	25%	22%	17%	27%
	43-4171	Receptionists and Information Clerks	Middle-Skill	6%	23%	32%	19%	19%
43-6011	Executive Secretaries and Executive Administrative Assistants	Middle-Skill	0%	2%	24%	30%	44%	

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Below Middle-Skill	1%	7%	17%	37%	39%
Education & Human Development	11-9032	Education Administrators, Kindergarten through Secondary	Above Middle-Skill	0%	6%	16%	42%	36%
	11-9033	Education Administrators, Postsecondary	Above Middle-Skill	0%	6%	16%	42%	36%
	11-9039	Education Administrators, All Other	Above Middle-Skill	0%	6%	16%	42%	36%
	13-1151	Training and Development Specialists	Above Middle-Skill	0%	1%	35%	29%	36%
	21-1012	Educational, Guidance, and Career Counselors and Advisors	Above Middle-Skill	2%	13%	37%	25%	22%
	21-1013	Marriage and Family Therapists	Above Middle-Skill	0%	5%	46%	28%	20%
	21-1019	Counselors, All Other	Above Middle-Skill	0%	8%	17%	35%	40%
	21-1021	Child, Family, and School Social Workers	Above Middle-Skill	0%	3%	17%	52%	28%
	21-1099	Community and Social Service Specialists, All Other	Above Middle-Skill	0%	5%	31%	19%	44%
	25-1099	Postsecondary teachers, all other	Above Middle-Skill	0%	4%	25%	31%	40%
	25-2021	Elementary School Teachers, Except Special Education	Above Middle-Skill	0%	3%	23%	42%	32%
	25-2022	Middle School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	0%	3%	23%	42%	32%
	25-2031	Secondary School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	1%	3%	20%	44%	32%
	25-2032	Career/Technical Education Teachers, Secondary School	Above Middle-Skill	1%	3%	20%	44%	32%
	25-2051	Special Education Teachers, Preschool	Above Middle-Skill	0%	3%	28%	35%	33%
	25-2052	Special Education Teachers, Kindergarten and Elementary School	Above Middle-Skill	0%	3%	28%	35%	33%
	25-2057	Special Education Teachers, Middle School	Above Middle-Skill	0%	3%	28%	35%	33%

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	25-2058	Special Education Teachers, Secondary School	Above Middle-Skill	0%	3%	28%	35%	33%
	25-2059	Special Education Teachers, All Other	Above Middle-Skill	0%	3%	28%	35%	33%
	25-3031	Substitute Teachers, Short-Term	Above Middle-Skill	6%	17%	24%	26%	27%
	25-3041	Tutors	Above Middle-Skill	12%	35%	27%	15%	12%
	25-3099	Teachers and Instructors, All Other	Above Middle-Skill	6%	17%	24%	26%	27%
	25-4022	Librarians and Media Collections Specialists	Above Middle-Skill	0%	5%	10%	36%	48%
	25-9031	Instructional Coordinators	Above Middle-Skill	6%	12%	25%	27%	29%
	25-2011	Preschool Teachers, Except Special Education	Middle-Skill	0%	8%	26%	32%	35%
	25-2012	Kindergarten Teachers, Except Special Education	Middle-Skill	0%	8%	26%	32%	35%
	25-9044	Teaching Assistants, Postsecondary	Middle-Skill	4%	15%	29%	21%	31%
	25-9045	Teaching Assistants, Except Postsecondary	Middle-Skill	4%	15%	29%	21%	31%
	25-3021	Self-Enrichment Teachers	Below Middle-Skill	6%	17%	24%	26%	27%
Energy, Construction & Utilities	11-9021	Construction Managers	Above Middle-Skill	0%	3%	20%	28%	49%
	11-9041	Architectural and Engineering Managers	Above Middle-Skill	0%	0%	10%	38%	51%
	17-1011	Architects, Except Landscape and Naval	Above Middle-Skill	0%	1%	7%	29%	63%
	17-1022	Surveyors	Above Middle-Skill	0%	11%	28%	45%	15%
	17-2051	Civil Engineers	Above Middle-Skill	0%	6%	29%	29%	36%
	17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	Above Middle-Skill	0%	6%	31%	12%	51%
	17-2161	Nuclear Engineers	Above Middle-Skill	0%	4%	19%	35%	42%
	17-2171	Petroleum Engineers	Above Middle-Skill	0%	6%	31%	12%	51%
	19-2041	Environmental Scientists and Specialists, Including Health	Above Middle-Skill	0%	17%	15%	31%	36%
	19-2042	Geoscientists, Except Hydrologists and Geographers	Above Middle-Skill	0%	12%	16%	28%	44%
	17-3011	Architectural and Civil Drafters	Middle-Skill	2%	2%	31%	21%	45%
	17-3022	Civil Engineering Technologists and Technicians	Middle-Skill	1%	8%	17%	30%	44%
17-3031	Surveying and Mapping Technicians	Middle-Skill	0%	11%	41%	32%	16%	

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	19-4043	Geological Technicians, Except Hydrologic Technicians	Middle-Skill	0%	35%	6%	5%	54%
	19-4051	Nuclear Technicians	Middle-Skill	0%	35%	6%	5%	54%
	47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	Middle-Skill	0%	3%	17%	33%	47%
	47-2071	Paving, Surfacing, and Tamping Equipment Operators	Middle-Skill	0%	2%	9%	44%	45%
	47-2073	Operating Engineers and Other Construction Equipment Operators	Middle-Skill	0%	2%	9%	44%	45%
	47-2111	Electricians	Middle-Skill	0%	8%	24%	29%	39%
	47-2152	Plumbers, Pipefitters, and Steamfitters	Middle-Skill	1%	8%	27%	40%	25%
	47-2211	Sheet Metal Workers	Middle-Skill	0%	12%	15%	18%	56%
	47-2231	Solar Photovoltaic Installers	Middle-Skill	0%	0%	53%	40%	7%
	47-4011	Construction and Building Inspectors	Middle-Skill	0%	0%	19%	19%	62%
	49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	Middle-Skill	0%	3%	18%	28%	50%
	49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Middle-Skill	0%	35%	0%	47%	18%
	49-2098	Security and Fire Alarm Systems Installers	Middle-Skill	0%	3%	40%	47%	10%
	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Middle-Skill	1%	8%	24%	35%	33%
	49-9052	Telecommunications Line Installers and Repairers	Middle-Skill	0%	8%	18%	37%	38%
	49-9081	Wind Turbine Service Technicians	Middle-Skill	1%	4%	25%	34%	36%
	51-8011	Nuclear Power Reactor Operators	Middle-Skill	0%	0%	8%	26%	67%
	51-8021	Stationary Engineers and Boiler Operators	Middle-Skill	0%	0%	30%	30%	40%
	47-2051	Cement Masons and Concrete Finishers	Below Middle-Skill	0%	0%	12%	28%	59%
	47-2081	Drywall and Ceiling Tile Installers	Below Middle-Skill	9%	4%	28%	38%	21%
47-2161	Plasterers and Stucco Masons	Below Middle-Skill	0%	9%	6%	19%	66%	
47-2181	Roofers	Below Middle-Skill	0%	13%	18%	37%	32%	
Health	11-9111	Medical and Health Services Managers	Above Middle-Skill	0%	2%	19%	40%	39%
	19-1041	Epidemiologists	Above Middle-Skill	0%	7%	20%	45%	28%

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	19-1042	Medical Scientists, Except Epidemiologists	Above Middle-Skill	0%	7%	20%	45%	28%
	19-3033	Clinical and Counseling Psychologists	Above Middle-Skill	0%	0%	5%	40%	55%
	19-3034	School Psychologists	Above Middle-Skill	0%	0%	17%	57%	25%
	19-3039	Psychologists, All Other	Above Middle-Skill	0%	2%	20%	28%	50%
	21-1015	Rehabilitation Counselors	Above Middle-Skill	0%	5%	58%	14%	23%
	21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Above Middle-Skill	0%	15%	38%	23%	24%
	21-1022	Healthcare Social Workers	Above Middle-Skill	0%	10%	24%	23%	43%
	21-1023	Mental Health and Substance Abuse Social Workers	Above Middle-Skill	0%	0%	19%	74%	7%
	21-1029	Social Workers, All Other	Above Middle-Skill	1%	4%	29%	38%	29%
	21-1091	Health Education Specialists	Above Middle-Skill	0%	5%	31%	19%	44%
	29-1011	Chiropractors	Above Middle-Skill	0%	0%	7%	55%	38%
	29-1021	Dentists, General	Above Middle-Skill	0%	0%	8%	41%	51%
	29-1022	Oral and Maxillofacial Surgeons	Above Middle-Skill	0%	0%	8%	41%	51%
	29-1023	Orthodontists	Above Middle-Skill	0%	0%	8%	41%	51%
	29-1024	Prosthodontists	Above Middle-Skill	0%	0%	8%	41%	51%
	29-1031	Dietitians and Nutritionists	Above Middle-Skill	0%	4%	33%	43%	19%
	29-1041	Optometrists	Above Middle-Skill	0%	0%	27%	45%	28%
	29-1051	Pharmacists	Above Middle-Skill	0%	2%	38%	42%	18%
	29-1071	Physician Assistants	Above Middle-Skill	0%	0%	29%	54%	17%
	29-1081	Podiatrists	Above Middle-Skill	0%	0%	0%	51%	49%
	29-1122	Occupational Therapists	Above Middle-Skill	0%	0%	29%	51%	20%
	29-1123	Physical Therapists	Above Middle-Skill	0%	3%	23%	47%	28%
	29-1125	Recreational Therapists	Above Middle-Skill	0%	0%	0%	100%	0%
	29-1127	Speech-Language Pathologists	Above Middle-Skill	0%	6%	41%	31%	22%
	29-1151	Nurse Anesthetists	Above Middle-Skill	0%	0%	11%	65%	24%
	29-1161	Nurse Midwives	Above Middle-Skill	0%	0%	21%	35%	43%
	29-1171	Nurse Practitioners	Above Middle-Skill	0%	0%	21%	35%	43%
	29-1181	Audiologists	Above Middle-Skill	0%	0%	21%	42%	38%
	29-1211	Anesthesiologists	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1213	Dermatologists	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1214	Emergency Medicine Physicians	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1215	Family Medicine Physicians	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1216	General Internal Medicine Physicians	Above Middle-Skill	0%	0%	10%	38%	52%

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	29-1218	Obstetricians and Gynecologists	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1221	Pediatricians, General	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1222	Physicians, Pathologists	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1223	Psychiatrists	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1224	Radiologists	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1229	Physicians, All Other	Above Middle-Skill	0%	0%	10%	38%	52%
	29-1291	Acupuncturists	Above Middle-Skill	0%	0%	0%	27%	73%
	29-2091	Orthotists and Prosthetists	Above Middle-Skill	0%	3%	44%	35%	17%
	29-9092	Genetic Counselors	Above Middle-Skill	0%	6%	20%	44%	29%
	21-1093	Social and Human Service Assistants	Middle-Skill	0%	10%	25%	33%	32%
	21-1094	Community Health Workers	Middle-Skill	0%	5%	31%	19%	44%
	29-1124	Radiation Therapists	Middle-Skill	0%	0%	27%	62%	11%
	29-1126	Respiratory Therapists	Middle-Skill	0%	4%	36%	36%	23%
	29-1141	Registered Nurses	Middle-Skill	0%	2%	25%	38%	35%
	29-1292	Dental Hygienists	Middle-Skill	0%	1%	19%	33%	47%
	29-2031	Cardiovascular Technologists and Technicians	Middle-Skill	0%	10%	10%	36%	44%
	29-2032	Diagnostic Medical Sonographers	Middle-Skill	0%	4%	37%	29%	30%
	29-2033	Nuclear Medicine Technologists	Middle-Skill	0%	0%	32%	53%	15%
	29-2034	Radiologic Technologists and Technicians	Middle-Skill	0%	0%	16%	25%	60%
	29-2035	Magnetic Resonance Imaging Technologists	Middle-Skill	0%	0%	0%	36%	64%
	29-2042	Emergency Medical Technicians	Middle-Skill	0%	27%	52%	12%	8%
	29-2043	Paramedics	Middle-Skill	0%	24%	23%	42%	11%
	29-2053	Psychiatric Technicians	Middle-Skill	5%	12%	28%	26%	29%
	29-2055	Surgical Technologists	Middle-Skill	0%	4%	48%	38%	11%
	29-2061	Licensed Practical and Licensed Vocational Nurses	Middle-Skill	0%	6%	34%	33%	27%
	29-2072	Medical Records Specialists	Middle-Skill	0%	0%	18%	41%	41%
	29-2081	Opticians, Dispensing	Middle-Skill	2%	23%	19%	43%	14%
	29-2099	Health Technologists and Technicians, All Other	Middle-Skill	0%	3%	44%	35%	17%
	29-9021	Health Information Technologists and Medical Registrars	Middle-Skill	0%	6%	20%	44%	29%
	31-1128	Home Health and Personal Care Aides	Middle-Skill	1%	6%	12%	27%	53%
	31-1131	Nursing Assistants	Middle-Skill	2%	16%	25%	24%	32%

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	31-2011	Occupational Therapy Assistants	Middle-Skill	0%	20%	40%	21%	19%
	31-2012	Occupational Therapy Aides	Middle-Skill	0%	20%	40%	21%	19%
	31-2021	Physical Therapist Assistants	Middle-Skill	2%	23%	46%	18%	11%
	31-2022	Physical Therapist Aides	Middle-Skill	2%	23%	46%	18%	11%
	31-9011	Massage Therapists	Middle-Skill	1%	4%	21%	30%	44%
	31-9091	Dental Assistants	Middle-Skill	1%	16%	27%	27%	30%
	31-9092	Medical Assistants	Middle-Skill	2%	17%	45%	26%	10%
	31-9093	Medical Equipment Preparers	Middle-Skill	4%	8%	32%	26%	31%
	31-9097	Phlebotomists	Middle-Skill	0%	9%	34%	10%	47%
	31-9099	Healthcare Support Workers, All Other	Middle-Skill	4%	8%	32%	26%	31%
	43-6013	Medical Secretaries and Administrative Assistants	Middle-Skill	0%	5%	34%	29%	32%
	39-9041	Residential Advisors	Below Middle-Skill	16%	66%	9%	8%	1%
	51-9082	Medical Appliance Technicians	Below Middle-Skill	0%	2%	26%	41%	30%
Information and Communication Technologies (ICT)/Digital Media	11-3021	Computer and Information Systems Managers	Above Middle-Skill	0%	0%	14%	46%	39%
	15-1211	Computer Systems Analysts	Above Middle-Skill	0%	5%	23%	49%	23%
	15-1212	Information Security Analysts	Above Middle-Skill	10%	2%	14%	54%	20%
	15-1221	Computer and Information Research Scientists	Above Middle-Skill	0%	5%	27%	45%	23%
	15-1242	Database Administrators	Above Middle-Skill	5%	3%	13%	40%	39%
	15-1243	Database Architects	Above Middle-Skill	5%	3%	13%	40%	39%
	15-1251	Computer Programmers	Above Middle-Skill	1%	9%	22%	35%	34%
	15-1252	Software Developers	Above Middle-Skill	0%	6%	29%	42%	23%
	15-1253	Software Quality Assurance Analysts and Testers	Above Middle-Skill	0%	0%	23%	44%	33%
	15-1299	Computer Occupations, All Other	Above Middle-Skill	0%	5%	25%	41%	29%
	15-2051	Data Scientists	Above Middle-Skill	1%	2%	27%	54%	15%
	17-1021	Cartographers and Photogrammetrists	Above Middle-Skill	0%	11%	28%	45%	15%
	17-2072	Electronics Engineers, Except Computer	Above Middle-Skill	0%	3%	19%	37%	41%
	27-1011	Art Directors	Above Middle-Skill	0%	6%	30%	32%	32%
	27-1014	Special Effects Artists and Animators	Above Middle-Skill	0%	6%	30%	32%	32%
27-1024	Graphic Designers	Above Middle-Skill	0%	8%	27%	40%	25%	
27-2012	Producers and Directors	Above Middle-Skill	0%	4%	31%	37%	28%	

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	27-2041	Music Directors and Composers	Above Middle-Skill	0%	0%	30%	23%	48%
	15-1231	Computer Network Support Specialists	Middle-Skill	2%	3%	33%	27%	36%
	15-1232	Computer User Support Specialists	Middle-Skill	2%	3%	33%	27%	36%
	15-1241	Computer Network Architects	Middle-Skill	0%	0%	11%	49%	39%
	15-1244	Network and Computer Systems Administrators	Middle-Skill	1%	4%	32%	43%	20%
	15-1254	Web Developers	Middle-Skill	2%	5%	39%	39%	14%
	15-1255	Web and Digital Interface Designers	Middle-Skill	2%	14%	36%	30%	18%
	27-4011	Audio and Video Technicians	Middle-Skill	7%	13%	36%	19%	26%
	27-4012	Broadcast Technicians	Middle-Skill	7%	13%	36%	19%	26%
	27-4021	Photographers	Middle-Skill	1%	8%	37%	32%	22%
	27-2099	Entertainers and Performers, Sports and Related Workers, All Other	Below Middle-Skill	6%	24%	35%	20%	15%
	27-3099	Media and Communication Workers, All Other	Below Middle-Skill	4%	19%	31%	19%	27%
27-4015	Lighting Technicians	Below Middle-Skill	7%	13%	36%	19%	26%	
Life Sciences/Biotech	17-2031	Bioengineers and Biomedical Engineers	Above Middle-Skill	0%	5%	37%	45%	13%
	19-1029	Biological Scientists, All Other	Above Middle-Skill	0%	13%	27%	33%	27%
	19-4099	Life, Physical, and Social Science Technicians, All Other	Middle-Skill	8%	23%	35%	15%	18%
	29-2018	Clinical Laboratory Technologists and Technicians	Middle-Skill	0%	5%	33%	31%	31%
	49-9062	Medical Equipment Repairers	Middle-Skill	0%	19%	7%	22%	52%
Public Safety	11-9161	Emergency Management Directors	Above Middle-Skill	0%	0%	31%	69%	0%
	21-1092	Probation Officers and Correctional Treatment Specialists	Above Middle-Skill	0%	0%	11%	37%	52%
	19-4092	Forensic Science Technicians	Middle-Skill	8%	23%	35%	15%	18%
	33-1011	First-Line Supervisors of Correctional Officers	Middle-Skill	0%	0%	0%	58%	42%
	33-1012	First-Line Supervisors of Police and Detectives	Middle-Skill	0%	0%	3%	45%	52%
	33-1021	First-Line Supervisors of Firefighting and Prevention Workers	Middle-Skill	0%	0%	0%	46%	54%

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	33-1099	First-Line Supervisors of Protective Service Workers, All Other	Middle-Skill	0%	4%	38%	24%	35%
	33-2011	Firefighters	Middle-Skill	0%	6%	35%	36%	23%
	33-2022	Forest Fire Inspectors and Prevention Specialists	Middle-Skill	0%	0%	10%	12%	78%
	33-3012	Correctional Officers and Jailers	Middle-Skill	0%	16%	18%	54%	12%
	33-3051	Police and Sheriff's Patrol Officers	Middle-Skill	0%	6%	30%	41%	22%
	43-5031	Public Safety Telecommunicators	Middle-Skill	0%	0%	57%	29%	14%
	33-9091	Crossing Guards and Flaggers	Below Middle-Skill	0%	0%	4%	30%	67%
	33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	Below Middle-Skill	55%	33%	6%	3%	3%
	33-9099	Protective Service Workers, All Other	Below Middle-Skill	55%	33%	6%	3%	3%
Retail, Hospitality & Tourism	11-9072	Entertainment and Recreation Managers, Except Gambling	Above Middle-Skill	0%	3%	35%	30%	31%
	13-1121	Meeting, Convention, and Event Planners	Above Middle-Skill	10%	9%	40%	21%	19%
	27-1022	Fashion Designers	Above Middle-Skill	7%	13%	35%	13%	32%
	27-1025	Interior Designers	Above Middle-Skill	0%	6%	28%	28%	38%
	11-9071	Gambling Managers	Middle-Skill	0%	3%	35%	30%	31%
	11-9081	Lodging Managers	Middle-Skill	1%	4%	28%	39%	28%
	35-1011	Chefs and Head Cooks	Middle-Skill	2%	5%	26%	45%	22%
	39-1014	First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services	Middle-Skill	2%	3%	29%	42%	23%
	39-1022	First-Line Supervisors of Personal Service Workers	Middle-Skill	2%	3%	29%	42%	23%
	39-7018	Tour and Travel Guides	Middle-Skill	7%	36%	7%	24%	26%
	43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	Middle-Skill	0%	16%	14%	41%	28%
	35-2014	Cooks, Restaurant	Below Middle-Skill	9%	14%	24%	33%	19%
	39-9032	Recreation Workers	Below Middle-Skill	10%	32%	26%	17%	15%
	39-9099	Personal Care and Service Workers, All Other	Below Middle-Skill	3%	15%	24%	22%	36%
Other	11-9121	Natural Sciences Managers	Above Middle-Skill	0%	26%	33%	40%	0%
	13-1041	Compliance Officers	Above Middle-Skill	0%	2%	16%	38%	45%

Sector	SOC	Occupation	Skill Level	19 or less	20 to 24	25 to 34	35 to 49	50 and older
	15-2041	Statisticians	Above Middle-Skill	1%	2%	27%	54%	15%
	15-2099	Mathematical Science Occupations, All Other	Above Middle-Skill	1%	2%	27%	54%	15%
	17-2011	Aerospace Engineers	Above Middle-Skill	0%	3%	26%	22%	49%
	17-2199	Engineers, All Other	Above Middle-Skill	0%	4%	19%	35%	42%
	19-1021	Biochemists and Biophysicists	Above Middle-Skill	0%	13%	27%	33%	27%
	19-1022	Microbiologists	Above Middle-Skill	0%	13%	27%	33%	27%
	19-2012	Physicists	Above Middle-Skill	0%	0%	47%	37%	16%
	19-2021	Atmospheric and Space Scientists	Above Middle-Skill	0%	0%	0%	0%	100%
	19-2031	Chemists	Above Middle-Skill	0%	1%	41%	24%	33%
	19-3011	Economists	Above Middle-Skill	0%	13%	48%	32%	8%
	19-3094	Political Scientists	Above Middle-Skill	0%	14%	10%	70%	6%
	19-3099	Social Scientists and Related Workers, All Other	Above Middle-Skill	0%	14%	10%	70%	6%
	21-2011	Clergy	Above Middle-Skill	0%	3%	17%	24%	56%
	21-2021	Directors, Religious Activities and Education	Above Middle-Skill	0%	14%	28%	11%	47%
	23-1011	Lawyers	Above Middle-Skill	0%	0%	19%	38%	43%
	23-1022	Arbitrators, Mediators, and Conciliators	Above Middle-Skill	0%	0%	19%	38%	43%
	23-1023	Judges, Magistrate Judges, and Magistrates	Above Middle-Skill	0%	0%	19%	38%	43%
	27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Above Middle-Skill	0%	6%	30%	32%	32%
	27-2022	Coaches and Scouts	Above Middle-Skill	14%	19%	23%	24%	20%
	27-3041	Editors	Above Middle-Skill	4%	8%	23%	39%	27%
	27-3042	Technical Writers	Above Middle-Skill	0%	2%	11%	20%	67%
	19-4061	Social Science Research Assistants	Middle-Skill	8%	23%	35%	15%	18%
	23-2011	Paralegals and Legal Assistants	Middle-Skill	0%	9%	32%	28%	31%
	27-3091	Interpreters and Translators	Middle-Skill	0%	1%	39%	25%	36%
	39-9031	Exercise Trainers and Group Fitness Instructors	Middle-Skill	0%	8%	37%	32%	23%
	43-4031	Court, Municipal, and License Clerks	Middle-Skill	0%	8%	6%	51%	35%
	33-9011	Animal Control Workers	Below Middle-Skill	0%	0%	62%	38%	0%
	43-4061	Eligibility Interviewers, Government Programs	Below Middle-Skill	0%	8%	24%	35%	33%
	53-6041	Traffic Technicians	Below Middle-Skill	0%	0%	8%	69%	24%

Sex

Exhibit 73 shows the sex for all 338 occupations analyzed in this report. Below middle-skill occupations are indicated with dark shading, middle-skill occupations are denoted with lighter shading, and above middle-skill occupations are not shaded.

Exhibit 73: Sex for Analyzed Occupations

Sector	SOC	Occupation	Skill Level	Female	Male
Advanced Manufacturing	17-2041	Chemical Engineers	Above Middle-Skill	34%	66%
	17-2061	Computer Hardware Engineers	Above Middle-Skill	1%	99%
	17-2071	Electrical Engineers	Above Middle-Skill	14%	86%
	17-2112	Industrial Engineers	Above Middle-Skill	21%	79%
	17-2141	Mechanical Engineers	Above Middle-Skill	5%	95%
	19-2032	Materials Scientists	Above Middle-Skill	33%	67%
	19-5011	Occupational Health and Safety Specialists	Above Middle-Skill	28%	72%
	27-1021	Commercial and Industrial Designers	Above Middle-Skill	35%	65%
	17-3023	Electrical and Electronic Engineering Technologists and Technicians	Middle-Skill	12%	88%
	17-3026	Industrial Engineering Technologists and Technicians	Middle-Skill	18%	82%
	17-3029	Engineering Technologists and Technicians, Except Drafters, All Other	Middle-Skill	18%	82%
	49-9041	Industrial Machinery Mechanics	Middle-Skill	2%	98%
	51-1011	First-Line Supervisors of Production and Operating Workers	Middle-Skill	29%	71%
	Advanced Transportation & Logistics	53-2011	Airline Pilots, Copilots, and Flight Engineers	Above Middle-Skill	0%
11-3071		Transportation, Storage, and Distribution Managers	Middle-Skill	15%	85%
13-1081		Logisticians	Middle-Skill	36%	64%
43-5011		Cargo and Freight Agents	Middle-Skill	30%	70%
43-5061		Production, Planning, and Expediting Clerks	Middle-Skill	50%	50%
49-1011		First-Line Supervisors of Mechanics, Installers, and Repairers	Middle-Skill	12%	88%
49-3011		Aircraft Mechanics and Service Technicians	Middle-Skill	8%	92%
49-3031		Bus and Truck Mechanics and Diesel Engine Specialists	Middle-Skill	4%	96%
49-3042		Mobile Heavy Equipment Mechanics, Except Engines	Middle-Skill	0%	100%
53-1041		Aircraft Cargo Handling Supervisors	Middle-Skill	26%	74%
53-1047		First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	Middle-Skill	26%	74%
53-2012		Commercial Pilots	Middle-Skill	0%	100%
53-3052		Bus Drivers, Transit and Intercity	Middle-Skill	25%	75%
53-4041		Subway and Streetcar Operators	Middle-Skill	0%	100%
53-7021		Crane and Tower Operators	Middle-Skill	0%	100%
53-3033		Light Truck Drivers	Below Middle-Skill	5%	95%
53-3051		Bus Drivers, School	Below Middle-Skill	40%	60%

Sector	SOC	Occupation	Skill Level	Female	Male
	53-3053	Shuttle Drivers and Chauffeurs	Below Middle-Skill	22%	78%
	53-3054	Taxi Drivers	Below Middle-Skill	15%	85%
Agriculture, Water & Environmental Technologies	17-2081	Environmental Engineers	Above Middle-Skill	22%	78%
	19-1011	Animal Scientists	Above Middle-Skill	23%	77%
	19-1013	Soil and Plant Scientists	Above Middle-Skill	23%	77%
	19-1023	Zoologists and Wildlife Biologists	Above Middle-Skill	62%	38%
	25-9021	Farm and Home Management Educators	Above Middle-Skill	80%	20%
	29-1131	Veterinarians	Above Middle-Skill	65%	35%
	29-2056	Veterinary Technologists and Technicians	Middle-Skill	74%	26%
	31-9096	Veterinary Assistants and Laboratory Animal Caretakers	Middle-Skill	58%	42%
	37-3013	Tree Trimmers and Pruners	Below Middle-Skill	2%	98%
	Business & Entrepreneurship	11-2021	Marketing Managers	Above Middle-Skill	49%
11-2022		Sales Managers	Above Middle-Skill	35%	65%
11-2032		Public Relations Managers	Above Middle-Skill	59%	41%
11-2033		Fundraising Managers	Above Middle-Skill	59%	41%
11-3031		Financial Managers	Above Middle-Skill	44%	56%
11-3051		Industrial Production Managers	Above Middle-Skill	33%	67%
11-3061		Purchasing Managers	Above Middle-Skill	50%	50%
11-3121		Human Resources Managers	Above Middle-Skill	55%	45%
11-3131		Training and Development Managers	Above Middle-Skill	39%	61%
11-9151		Social and Community Service Managers	Above Middle-Skill	64%	36%
11-9199		Managers, All Other	Above Middle-Skill	34%	66%
11-1011		Chief Executives	Above Middle-Skill	22%	78%
13-1071		Human Resources Specialists	Above Middle-Skill	72%	28%
13-1082		Project Management Specialists	Above Middle-Skill	38%	62%
13-1111		Management Analysts	Above Middle-Skill	37%	63%
13-1131		Fundraisers	Above Middle-Skill	78%	22%
13-1141		Compensation, Benefits, and Job Analysis Specialists	Above Middle-Skill	84%	16%
13-1161		Market Research Analysts and Marketing Specialists	Above Middle-Skill	56%	44%
13-1199		Business Operations Specialists, All Other	Above Middle-Skill	53%	47%
13-2011		Accountants and Auditors	Above Middle-Skill	62%	38%
13-2041		Credit Analysts	Above Middle-Skill	39%	61%
13-2051		Financial and Investment Analysts	Above Middle-Skill	40%	60%
13-2052		Personal Financial Advisors	Above Middle-Skill	27%	73%
13-2053		Insurance Underwriters	Above Middle-Skill	73%	27%
13-2054		Financial Risk Specialists	Above Middle-Skill	55%	45%
13-2061		Financial Examiners	Above Middle-Skill	32%	68%
13-2072		Loan Officers	Above Middle-Skill	37%	63%
13-2099		Financial Specialists, All Other	Above Middle-Skill	55%	45%
15-2011		Actuaries	Above Middle-Skill	27%	73%
15-2031		Operations Research Analysts	Above Middle-Skill	51%	49%
19-3032	Industrial-Organizational Psychologists	Above Middle-Skill	71%	29%	

Sector	SOC	Occupation	Skill Level	Female	Male	
	27-3031	Public Relations Specialists	Above Middle-Skill	66%	34%	
	41-3031	Securities, Commodities, and Financial Services Sales Agents	Above Middle-Skill	12%	88%	
	41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Above Middle-Skill	31%	69%	
	41-9031	Sales Engineers	Above Middle-Skill	9%	91%	
	11-3012	Administrative Services Managers	Middle-Skill	64%	36%	
	11-3013	Facilities Managers	Middle-Skill	13%	87%	
	11-9141	Property, Real Estate, and Community Association Managers	Middle-Skill	54%	46%	
	11-9171	Funeral Home Managers	Middle-Skill	34%	66%	
	11-1021	General and Operations Managers	Middle-Skill	32%	68%	
	13-1028	Buyers and Purchasing Agents	Middle-Skill	55%	45%	
	13-1031	Claims Adjusters, Examiners, and Investigators	Middle-Skill	58%	42%	
	13-1051	Cost Estimators	Middle-Skill	13%	87%	
	13-2028	Property Appraisers and Assessors	Middle-Skill	18%	82%	
	23-2093	Title Examiners, Abstractors, and Searchers	Middle-Skill	64%	36%	
	39-5012	Hairdressers, Hairstylists, and Cosmetologists	Middle-Skill	86%	14%	
	39-5091	Makeup Artists, Theatrical and Performance	Middle-Skill	97%	3%	
	39-5092	Manicurists and Pedicurists	Middle-Skill	91%	9%	
	39-5094	Skincare Specialists	Middle-Skill	99%	1%	
	41-1012	First-Line Supervisors of Non-Retail Sales Workers	Middle-Skill	31%	69%	
	41-3021	Insurance Sales Agents	Middle-Skill	45%	55%	
	41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	Middle-Skill	31%	69%	
	41-9021	Real Estate Brokers	Middle-Skill	49%	51%	
	43-1011	First-Line Supervisors of Office and Administrative Support Workers	Middle-Skill	64%	36%	
	43-3051	Payroll and Timekeeping Clerks	Middle-Skill	89%	11%	
	43-4011	Brokerage Clerks	Middle-Skill	63%	37%	
	43-4171	Receptionists and Information Clerks	Middle-Skill	84%	16%	
	43-6011	Executive Secretaries and Executive Administrative Assistants	Middle-Skill	96%	4%	
	41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	Below Middle-Skill	29%	71%	
	Education & Human Development	11-9032	Education Administrators, Kindergarten through Secondary	Above Middle-Skill	62%	38%
		11-9033	Education Administrators, Postsecondary	Above Middle-Skill	62%	38%
11-9039		Education Administrators, All Other	Above Middle-Skill	62%	38%	
13-1151		Training and Development Specialists	Above Middle-Skill	56%	44%	
21-1012		Educational, Guidance, and Career Counselors and Advisors	Above Middle-Skill	73%	27%	

Sector	SOC	Occupation	Skill Level	Female	Male
	21-1013	Marriage and Family Therapists	Above Middle-Skill	70%	30%
	21-1019	Counselors, All Other	Above Middle-Skill	63%	37%
	21-1021	Child, Family, and School Social Workers	Above Middle-Skill	72%	28%
	21-1099	Community and Social Service Specialists, All Other	Above Middle-Skill	77%	23%
	25-1099	Postsecondary teachers, all other	Above Middle-Skill	53%	47%
	25-2021	Elementary School Teachers, Except Special Education	Above Middle-Skill	76%	24%
	25-2022	Middle School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	76%	24%
	25-2031	Secondary School Teachers, Except Special and Career/Technical Education	Above Middle-Skill	56%	44%
	25-2032	Career/Technical Education Teachers, Secondary School	Above Middle-Skill	56%	44%
	25-2051	Special Education Teachers, Preschool	Above Middle-Skill	86%	14%
	25-2052	Special Education Teachers, Kindergarten and Elementary School	Above Middle-Skill	86%	14%
	25-2057	Special Education Teachers, Middle School	Above Middle-Skill	86%	14%
	25-2058	Special Education Teachers, Secondary School	Above Middle-Skill	86%	14%
	25-2059	Special Education Teachers, All Other	Above Middle-Skill	86%	14%
	25-3031	Substitute Teachers, Short-Term	Above Middle-Skill	60%	40%
	25-3041	Tutors	Above Middle-Skill	62%	38%
	25-3099	Teachers and Instructors, All Other	Above Middle-Skill	60%	40%
	25-4022	Librarians and Media Collections Specialists	Above Middle-Skill	78%	22%
	25-9031	Instructional Coordinators	Above Middle-Skill	80%	20%
	25-2011	Preschool Teachers, Except Special Education	Middle-Skill	100%	0%
	25-2012	Kindergarten Teachers, Except Special Education	Middle-Skill	100%	0%
	25-9044	Teaching Assistants, Postsecondary	Middle-Skill	82%	18%
	25-9045	Teaching Assistants, Except Postsecondary	Middle-Skill	82%	18%
	25-3021	Self-Enrichment Teachers	Below Middle-Skill	60%	40%
	Energy, Construction & Utilities	11-9021	Construction Managers	Above Middle-Skill	13%
11-9041		Architectural and Engineering Managers	Above Middle-Skill	14%	86%
17-1011		Architects, Except Landscape and Naval	Above Middle-Skill	22%	78%
17-1022		Surveyors	Above Middle-Skill	13%	87%
17-2051		Civil Engineers	Above Middle-Skill	13%	87%
17-2151		Mining and Geological Engineers, Including Mining Safety Engineers	Above Middle-Skill	0%	100%
17-2161		Nuclear Engineers	Above Middle-Skill	17%	83%
17-2171		Petroleum Engineers	Above Middle-Skill	0%	100%
19-2041		Environmental Scientists and Specialists, Including Health	Above Middle-Skill	51%	49%
19-2042		Geoscientists, Except Hydrologists and Geographers	Above Middle-Skill	44%	56%
17-3011		Architectural and Civil Drafters	Middle-Skill	22%	78%

Sector	SOC	Occupation	Skill Level	Female	Male
	17-3022	Civil Engineering Technologists and Technicians	Middle-Skill	18%	82%
	17-3031	Surveying and Mapping Technicians	Middle-Skill	0%	100%
	19-4043	Geological Technicians, Except Hydrologic Technicians	Middle-Skill	19%	81%
	19-4051	Nuclear Technicians	Middle-Skill	19%	81%
	47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	Middle-Skill	2%	98%
	47-2071	Paving, Surfacing, and Tamping Equipment Operators	Middle-Skill	3%	97%
	47-2073	Operating Engineers and Other Construction Equipment Operators	Middle-Skill	3%	97%
	47-2111	Electricians	Middle-Skill	2%	98%
	47-2152	Plumbers, Pipefitters, and Steamfitters	Middle-Skill	1%	99%
	47-2211	Sheet Metal Workers	Middle-Skill	19%	81%
	47-2231	Solar Photovoltaic Installers	Middle-Skill	7%	93%
	47-4011	Construction and Building Inspectors	Middle-Skill	11%	89%
	49-2022	Telecommunications Equipment Installers and Repairers, Except Line Installers	Middle-Skill	8%	92%
	49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	Middle-Skill	0%	100%
	49-2098	Security and Fire Alarm Systems Installers	Middle-Skill	0%	100%
	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Middle-Skill	2%	98%
	49-9052	Telecommunications Line Installers and Repairers	Middle-Skill	5%	95%
	49-9081	Wind Turbine Service Technicians	Middle-Skill	3%	97%
	51-8011	Nuclear Power Reactor Operators	Middle-Skill	0%	100%
	51-8021	Stationary Engineers and Boiler Operators	Middle-Skill	0%	100%
	47-2051	Cement Masons and Concrete Finishers	Below Middle-Skill	0%	100%
	47-2081	Drywall and Ceiling Tile Installers	Below Middle-Skill	6%	94%
	47-2161	Plasterers and Stucco Masons	Below Middle-Skill	0%	100%
	47-2181	Roofers	Below Middle-Skill	5%	95%
Health	11-9111	Medical and Health Services Managers	Above Middle-Skill	68%	32%
	19-1041	Epidemiologists	Above Middle-Skill	59%	41%
	19-1042	Medical Scientists, Except Epidemiologists	Above Middle-Skill	59%	41%
	19-3033	Clinical and Counseling Psychologists	Above Middle-Skill	56%	44%
	19-3034	School Psychologists	Above Middle-Skill	98%	2%
	19-3039	Psychologists, All Other	Above Middle-Skill	71%	29%
	21-1015	Rehabilitation Counselors	Above Middle-Skill	59%	41%
	21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Above Middle-Skill	75%	25%
	21-1022	Healthcare Social Workers	Above Middle-Skill	91%	9%
	21-1023	Mental Health and Substance Abuse Social Workers	Above Middle-Skill	87%	13%
	21-1029	Social Workers, All Other	Above Middle-Skill	82%	18%
	21-1091	Health Education Specialists	Above Middle-Skill	77%	23%
	29-1011	Chiropractors	Above Middle-Skill	22%	78%

Sector	SOC	Occupation	Skill Level	Female	Male
	29-1021	Dentists, General	Above Middle-Skill	41%	59%
	29-1022	Oral and Maxillofacial Surgeons	Above Middle-Skill	41%	59%
	29-1023	Orthodontists	Above Middle-Skill	41%	59%
	29-1024	Prosthodontists	Above Middle-Skill	41%	59%
	29-1031	Dietitians and Nutritionists	Above Middle-Skill	94%	6%
	29-1041	Optometrists	Above Middle-Skill	72%	28%
	29-1051	Pharmacists	Above Middle-Skill	65%	35%
	29-1071	Physician Assistants	Above Middle-Skill	69%	31%
	29-1081	Podiatrists	Above Middle-Skill	20%	80%
	29-1122	Occupational Therapists	Above Middle-Skill	88%	12%
	29-1123	Physical Therapists	Above Middle-Skill	56%	44%
	29-1125	Recreational Therapists	Above Middle-Skill	0%	100%
	29-1127	Speech-Language Pathologists	Above Middle-Skill	96%	4%
	29-1151	Nurse Anesthetists	Above Middle-Skill	71%	29%
	29-1161	Nurse Midwives	Above Middle-Skill	85%	15%
	29-1171	Nurse Practitioners	Above Middle-Skill	85%	15%
	29-1181	Audiologists	Above Middle-Skill	56%	44%
	29-1211	Anesthesiologists	Above Middle-Skill	36%	64%
	29-1213	Dermatologists	Above Middle-Skill	36%	64%
	29-1214	Emergency Medicine Physicians	Above Middle-Skill	36%	64%
	29-1215	Family Medicine Physicians	Above Middle-Skill	36%	64%
	29-1216	General Internal Medicine Physicians	Above Middle-Skill	36%	64%
	29-1218	Obstetricians and Gynecologists	Above Middle-Skill	36%	64%
	29-1221	Pediatricians, General	Above Middle-Skill	36%	64%
	29-1222	Physicians, Pathologists	Above Middle-Skill	36%	64%
	29-1223	Psychiatrists	Above Middle-Skill	36%	64%
	29-1224	Radiologists	Above Middle-Skill	36%	64%
	29-1229	Physicians, All Other	Above Middle-Skill	36%	64%
	29-1291	Acupuncturists	Above Middle-Skill	63%	37%
	29-2091	Orthotists and Prosthetists	Above Middle-Skill	45%	55%
	29-9092	Genetic Counselors	Above Middle-Skill	59%	41%
	21-1093	Social and Human Service Assistants	Middle-Skill	87%	13%
	21-1094	Community Health Workers	Middle-Skill	77%	23%
	29-1124	Radiation Therapists	Middle-Skill	71%	29%
	29-1126	Respiratory Therapists	Middle-Skill	45%	55%
	29-1141	Registered Nurses	Middle-Skill	86%	14%
	29-1292	Dental Hygienists	Middle-Skill	98%	2%
	29-2031	Cardiovascular Technologists and Technicians	Middle-Skill	32%	68%
	29-2032	Diagnostic Medical Sonographers	Middle-Skill	79%	21%
	29-2033	Nuclear Medicine Technologists	Middle-Skill	41%	59%
	29-2034	Radiologic Technologists and Technicians	Middle-Skill	42%	58%
	29-2035	Magnetic Resonance Imaging Technologists	Middle-Skill	55%	45%
	29-2042	Emergency Medical Technicians	Middle-Skill	12%	88%

Sector	SOC	Occupation	Skill Level	Female	Male
	29-2043	Paramedics	Middle-Skill	25%	75%
	29-2053	Psychiatric Technicians	Middle-Skill	77%	23%
	29-2055	Surgical Technologists	Middle-Skill	62%	38%
	29-2061	Licensed Practical and Licensed Vocational Nurses	Middle-Skill	74%	26%
	29-2072	Medical Records Specialists	Middle-Skill	74%	26%
	29-2081	Opticians, Dispensing	Middle-Skill	65%	35%
	29-2099	Health Technologists and Technicians, All Other	Middle-Skill	45%	55%
	29-9021	Health Information Technologists and Medical Registrars	Middle-Skill	59%	41%
	31-1128	Home Health and Personal Care Aides	Middle-Skill	78%	22%
	31-1131	Nursing Assistants	Middle-Skill	75%	25%
	31-2011	Occupational Therapy Assistants	Middle-Skill	86%	14%
	31-2012	Occupational Therapy Aides	Middle-Skill	86%	14%
	31-2021	Physical Therapist Assistants	Middle-Skill	52%	48%
	31-2022	Physical Therapist Aides	Middle-Skill	52%	48%
	31-9011	Massage Therapists	Middle-Skill	83%	17%
	31-9091	Dental Assistants	Middle-Skill	88%	12%
	31-9092	Medical Assistants	Middle-Skill	89%	11%
	31-9093	Medical Equipment Preparers	Middle-Skill	70%	30%
	31-9097	Phlebotomists	Middle-Skill	59%	41%
	31-9099	Healthcare Support Workers, All Other	Middle-Skill	70%	30%
	43-6013	Medical Secretaries and Administrative Assistants	Middle-Skill	95%	5%
	39-9041	Residential Advisors	Below Middle-Skill	83%	17%
	51-9082	Medical Appliance Technicians	Below Middle-Skill	50%	50%
Information and Communication Technologies (ICT)/Digital Media	11-3021	Computer and Information Systems Managers	Above Middle-Skill	29%	71%
	15-1211	Computer Systems Analysts	Above Middle-Skill	36%	64%
	15-1212	Information Security Analysts	Above Middle-Skill	17%	83%
	15-1221	Computer and Information Research Scientists	Above Middle-Skill	44%	56%
	15-1242	Database Administrators	Above Middle-Skill	20%	80%
	15-1243	Database Architects	Above Middle-Skill	20%	80%
	15-1251	Computer Programmers	Above Middle-Skill	17%	83%
	15-1252	Software Developers	Above Middle-Skill	14%	86%
	15-1253	Software Quality Assurance Analysts and Testers	Above Middle-Skill	34%	66%
	15-1299	Computer Occupations, All Other	Above Middle-Skill	22%	78%
	15-2051	Data Scientists	Above Middle-Skill	49%	51%
	17-1021	Cartographers and Photogrammetrists	Above Middle-Skill	13%	87%
	17-2072	Electronics Engineers, Except Computer	Above Middle-Skill	14%	86%
	27-1011	Art Directors	Above Middle-Skill	45%	55%
	27-1014	Special Effects Artists and Animators	Above Middle-Skill	45%	55%
	27-1024	Graphic Designers	Above Middle-Skill	50%	50%
	27-2012	Producers and Directors	Above Middle-Skill	27%	73%

Sector	SOC	Occupation	Skill Level	Female	Male
	27-2041	Music Directors and Composers	Above Middle-Skill	39%	61%
	15-1231	Computer Network Support Specialists	Middle-Skill	16%	84%
	15-1232	Computer User Support Specialists	Middle-Skill	16%	84%
	15-1241	Computer Network Architects	Middle-Skill	12%	88%
	15-1244	Network and Computer Systems Administrators	Middle-Skill	18%	82%
	15-1254	Web Developers	Middle-Skill	20%	80%
	15-1255	Web and Digital Interface Designers	Middle-Skill	38%	62%
	27-4011	Audio and Video Technicians	Middle-Skill	8%	92%
	27-4012	Broadcast Technicians	Middle-Skill	8%	92%
	27-4021	Photographers	Middle-Skill	43%	57%
	27-2099	Entertainers and Performers, Sports and Related Workers, All Other	Below Middle-Skill	55%	45%
	27-3099	Media and Communication Workers, All Other	Below Middle-Skill	45%	55%
	27-4015	Lighting Technicians	Below Middle-Skill	8%	92%
Life Sciences/Biotech	17-2031	Bioengineers and Biomedical Engineers	Above Middle-Skill	38%	62%
	19-1029	Biological Scientists, All Other	Above Middle-Skill	62%	38%
	19-4099	Life, Physical, and Social Science Technicians, All Other	Middle-Skill	46%	54%
	29-2018	Clinical Laboratory Technologists and Technicians	Middle-Skill	63%	37%
	49-9062	Medical Equipment Repairers	Middle-Skill	8%	92%
Public Safety	11-9161	Emergency Management Directors	Above Middle-Skill	0%	100%
	21-1092	Probation Officers and Correctional Treatment Specialists	Above Middle-Skill	26%	74%
	19-4092	Forensic Science Technicians	Middle-Skill	46%	54%
	33-1011	First-Line Supervisors of Correctional Officers	Middle-Skill	100%	0%
	33-1012	First-Line Supervisors of Police and Detectives	Middle-Skill	8%	92%
	33-1021	First-Line Supervisors of Firefighting and Prevention Workers	Middle-Skill	0%	100%
	33-1099	First-Line Supervisors of Protective Service Workers, All Other	Middle-Skill	21%	79%
	33-2011	Firefighters	Middle-Skill	5%	95%
	33-2022	Forest Fire Inspectors and Prevention Specialists	Middle-Skill	9%	91%
	33-3012	Correctional Officers and Jailers	Middle-Skill	32%	68%
	33-3051	Police and Sheriff's Patrol Officers	Middle-Skill	16%	84%
	43-5031	Public Safety Telecommunicators	Middle-Skill	75%	25%
	33-9091	Crossing Guards and Flaggers	Below Middle-Skill	49%	51%
	33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	Below Middle-Skill	35%	65%
33-9099	Protective Service Workers, All Other	Below Middle-Skill	35%	65%	
Retail, Hospitality & Tourism	11-9072	Entertainment and Recreation Managers, Except Gambling	Above Middle-Skill	51%	49%
	13-1121	Meeting, Convention, and Event Planners	Above Middle-Skill	61%	39%
	27-1022	Fashion Designers	Above Middle-Skill	76%	24%

Sector	SOC	Occupation	Skill Level	Female	Male
	27-1025	Interior Designers	Above Middle-Skill	81%	19%
	11-9071	Gambling Managers	Middle-Skill	51%	49%
	11-9081	Lodging Managers	Middle-Skill	46%	54%
	35-1011	Chefs and Head Cooks	Middle-Skill	20%	80%
	39-1014	First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services	Middle-Skill	65%	35%
	39-1022	First-Line Supervisors of Personal Service Workers	Middle-Skill	65%	35%
	39-7018	Tour and Travel Guides	Middle-Skill	61%	39%
	43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	Middle-Skill	64%	36%
	35-2014	Cooks, Restaurant	Below Middle-Skill	35%	65%
	39-9032	Recreation Workers	Below Middle-Skill	61%	39%
	39-9099	Personal Care and Service Workers, All Other	Below Middle-Skill	48%	52%
Other	11-9121	Natural Sciences Managers	Above Middle-Skill	26%	74%
	13-1041	Compliance Officers	Above Middle-Skill	50%	50%
	15-2041	Statisticians	Above Middle-Skill	49%	51%
	15-2099	Mathematical Science Occupations, All Other	Above Middle-Skill	49%	51%
	17-2011	Aerospace Engineers	Above Middle-Skill	13%	87%
	17-2199	Engineers, All Other	Above Middle-Skill	17%	83%
	19-1021	Biochemists and Biophysicists	Above Middle-Skill	62%	38%
	19-1022	Microbiologists	Above Middle-Skill	62%	38%
	19-2012	Physicists	Above Middle-Skill	0%	100%
	19-2021	Atmospheric and Space Scientists	Above Middle-Skill	0%	100%
	19-2031	Chemists	Above Middle-Skill	33%	67%
	19-3011	Economists	Above Middle-Skill	30%	70%
	19-3094	Political Scientists	Above Middle-Skill	40%	60%
	19-3099	Social Scientists and Related Workers, All Other	Above Middle-Skill	40%	60%
	21-2011	Clergy	Above Middle-Skill	18%	82%
	21-2021	Directors, Religious Activities and Education	Above Middle-Skill	77%	23%
	23-1011	Lawyers	Above Middle-Skill	33%	67%
	23-1022	Arbitrators, Mediators, and Conciliators	Above Middle-Skill	33%	67%
	23-1023	Judges, Magistrate Judges, and Magistrates	Above Middle-Skill	33%	67%
	27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	Above Middle-Skill	45%	55%
	27-2022	Coaches and Scouts	Above Middle-Skill	40%	60%
	27-3041	Editors	Above Middle-Skill	67%	33%
	27-3042	Technical Writers	Above Middle-Skill	53%	47%
19-4061	Social Science Research Assistants	Middle-Skill	46%	54%	
23-2011	Paralegals and Legal Assistants	Middle-Skill	81%	19%	
27-3091	Interpreters and Translators	Middle-Skill	59%	41%	

Sector	SOC	Occupation	Skill Level	Female	Male
	39-9031	Exercise Trainers and Group Fitness Instructors	Middle-Skill	66%	34%
	43-4031	Court, Municipal, and License Clerks	Middle-Skill	76%	24%
	33-9011	Animal Control Workers	Below Middle-Skill	38%	62%
	43-4061	Eligibility Interviewers, Government Programs	Below Middle-Skill	77%	23%
	53-6041	Traffic Technicians	Below Middle-Skill	0%	100%



Important Disclaimers

All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. This study examines the most recent data available at the time of the analysis; 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 the report 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.

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