

**October 2022**

# **Environmental Scan**

## **Merced College**



Prepared by the Central Valley/Mother Lode Center of Excellence



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**COVID-19 Statement:** This report includes employment projection data by LIGHTCAST. LIGHTCAST's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on employment and jobs in the state and, in combination with input from local

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# INTRODUCTION

This report prepared by the Central Valley/Mother Lode Center of Excellence examines labor market demand and postsecondary supply in Merced County.

The report focuses on occupations in the (10) sectors that align with career education (CE) programs designated by the California Community Colleges Chancellor's Office (CCCCO).<sup>1</sup>

Within each sector, this analysis focuses on middle-skill occupations, those occupations that require more education and training than a high school diploma, but less than a bachelor's degree at the state-level. For each occupation, data is presented on current employment, projected demand, entry-level wages, and educational attainment.

The average living wage for a single adult in Merced county is \$12.45/hour.<sup>2</sup> Top specialized skills were determined by analyzing job postings for all occupations in a related sector using Burning Glass. Postsecondary supply is presented for average annual awards (degrees and certificates) by program.

**Please note:** The analysis in this report only includes occupations with 10 or more annual openings. In the wage charts for each sector, entry-level wages represent 25<sup>th</sup> percentile wages. In addition, Current Population Survey (CPS) results are provided in the educational attainment tables. An occupation in which at least 30% of its workforce or higher possesses less than a bachelor's degree is considered a middle-skill occupation that is relevant to community college education.

More information on the report's methodology can be found in Appendix A.

## CCCCO Sectors

- Advanced Manufacturing
- Advanced Transportation and Logistics
- Agriculture, Water and Environmental Technologies
- Business and Entrepreneurship
- Education
- Energy, Construction and Utilities
- Health Care
- ICT/Digital Media
- Public Safety

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<sup>2</sup> The term "living wage" in Center of Excellence reports is calculated by averaging the self-sufficiency wages from the Insight Center's California Family Needs Calculator for each county in the subregion: <https://insightccd.org/tools-metrics/self-sufficiency-standard-tool-for-california/>.

# SUMMARY OF FINDINGS

The Central Valley/Mother Lode Center of Excellence was asked by Merced College District to provide labor market information for the (10) CCCC sectors that are critical to the economic vitality of Merced County.

In the following report sections, occupational wages, educational attainment, and postsecondary supply are shown for each CCCC sector. Analysis by the Center of Excellence examined whether postsecondary institutions are supplying enough students to meet workforce demand. This analysis identified sectors with substantial projected growth and job openings and compared those sectors with postsecondary programs preparing students to enter occupations within those sectors.

## Key finding:

In Merced county, the 10 sectors are expected to offer 5,234 middle-skill job openings annually. Postsecondary institutions in the service area currently supply 1,232 awards (degrees and certificates) to students entering related fields on average each year. When postsecondary supply and projected annual openings are compared, an undersupply of 4,002 workers appear to exist in the district service area (Exhibit 1).

Sectors with the most jobs in 2021 are health care, business and entrepreneurship, and agriculture, water & environmental technologies. These sectors also are projected to offer the greatest number of annual job openings. The smallest sectors in terms of 2021 employment are advanced manufacturing, ICT/digital media, and public safety. These sectors also are projected to offer the smallest number of annual job openings.

**Exhibit 1. Comparison of workforce demand and postsecondary supply for the 10 industry sectors**

SECTOR	DEMAND (ANNUAL OPENINGS)	SUPPLY (AVERAGE ANNUAL AWARDS)	GAP
Health	1,029	428	601
Business & Entrepreneurship	827	219	608
Agriculture, Water & Environmental Technologies	677	129	548
Advanced Transportation & Logistics	550	95	455
Retail, Hospitality & Tourism	501	91	410
Energy, Construction & Utilities	488	29	459
Education	393	69	324
Advanced Manufacturing	369	60	309
ICT/Digital Media	306	102	204
Public Safety	94	10	84
<b>TOTAL</b>	<b>5,234</b>	<b>1,232</b>	<b>4,002</b>

In addition to addressing the sectors with the largest undersupply of workers, planning efforts by the district could also consider occupations with strong workforce demand.

Occupations that have the most annual job openings and that are generally well paid in Merced County are:

- **Heavy and Tractor-Trailer Truck Drivers, 235 job openings**
- **General and Operations Managers, 105 job opening**
- **First-Line Supervisors of Retail Sales Workers, 94 job openings**
- **Secretaries and Administrative Assistants, Except Legal, Medical, and Executive, 89 job openings**
- **Bookkeeping, Accounting, and Auditing Clerks, 86 job openings**
- **Industrial Truck and Tractor Operators, 86 job openings**
- **Maintenance and Repair Workers, General, 86 job openings**
- **Carpenters, 66 job openings**
- **First-Line Supervisors of Office and Administrative Support Workers, 62 job openings**

Although Farmers, Ranchers, and Other Agricultural Managers are projected to offer 338 annual job openings, this occupation pays a low entry-level wage, only \$14.00 per hour. In addition, 605 annual job openings are projected for home health and personal care aides, but this occupation pays an entry-level wage of \$14.30.

Occupations that pose a concern for training are those projected to contract over the next five years. These occupations will continue to offer annual openings, due to replacement jobs, but may be areas warranting attention since contraction may affect the future hiring of students.

These occupations include:

- **Childcare Workers**, a loss of 68 positions, a 9% decline
- **Correctional Officers and Jailers**, a loss of 14 positions, a 5% decline
- **Packaging and Filling Machine Operators and Tenders**, a loss of 41 positions, a 4% decline

It is also important to keep in mind occupations that offer solid wages in conjunction with moderate to strong workforce demand. Sectors with these types of jobs include ICT/digital media, education, and business and entrepreneurship.

Within health care, occupations that have a promising outlook lead to improved quality of life for students include registered nurses, dental assistants, licensed practical and licensed vocational nurses, and phlebotomists. Within advanced transportation and logistics, occupations include heavy and tractor-trailer truck drivers, first-line supervisors of transportation and material moving workers, except aircraft cargo handling supervisors, and first-line supervisors of mechanics, installers, and repairers. Within business and entrepreneurship, sales representatives, wholesale and manufacturing, technical and scientific products, general and operations managers, and human resources specialists are occupations that pay relatively high entry-level wages and have significant annual openings. Within the energy, construction, and utilities sector, occupations include construction managers, first-line supervisors of construction trades and extraction workers, and operating engineers and other construction equipment operators.

# CAREER EDUCATION OUTCOMES

Exhibit 2 summarizes Strong Workforce Program (SWP) outcomes from the California Community Colleges Chancellor Office's Cal-PASS Plus LaunchBoard for all career education (CE) programs in Merced College, the region, and state. At 20%, the percentage of students who earned 9 or more CE units is similar to the region, 21%, and state, 20%. Merced College has a lower percentage of students who have completed a noncredit CE course or workforce preparation class—39% in Merced College compared to 52% in the region and 67% in the state.

In Merced College, 657 of students received a degree or certificate or attained apprenticeship journey status, and 571 students transferred. Median annual earnings total \$32,696 in Merced College which is slightly more than the region, \$31,120.

Merced College ties with the region and state in terms of the percentage of students obtaining a job closely related to their field of study and students reporting a median change in earnings. In Merced College, 61% of students attained a living wage, which is less than in the region, 63%, and is above the state, 52%.

**Exhibit 2. Comparison of SWP outcomes from Launch Board for Merced College, the Central Valley/Mother Lode region, and the state**

Metric	Merced College	CVML Region	State
Strong Workforce Program Students	7,091	97,263	903,447
Students Who Earned 9 or More Career Education Units in the District in a Single Year	20%	21%	20%
Students Who Completed a Noncredit CTE or Workforce Preparation Course	39%	52%	67%
Students Who Got a Degree or Certificate or Attained Apprenticeship Journey Status	657	8,458	79,853
Number of Students Who Transferred	571	6,960	63,698
Job Closely Related to Field of Study	73%	73%	73%
Median Annual Earnings	\$32,696	\$31,120	\$37,384
Median Change in Earnings	31%	34%	26%
Attained a Living Wage	61%	63%	52%

# ADVANCED MANUFACTURING

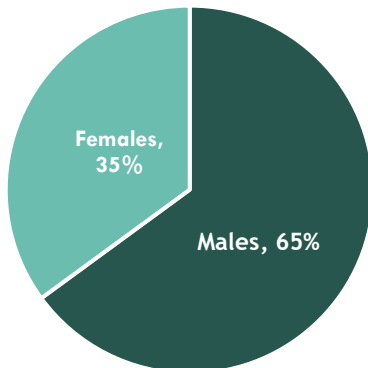
## Summary

- **Gender & race/ethnicity:** Comprising 35% of the workforce, women are underrepresented in this sector. Analysis shows overrepresentation of Hispanic or Latino workers (Exhibits 3 and 4).
- **Employment and projected demand:** The largest middle-skill occupation is packaging and filling machine operators and tenders, which will have 105 annual openings (Exhibit 5).
- **Wages:** The highest paid occupation is first-line supervisors of production and operating workers, \$28.96/hour median (Exhibit 6).
- **Specialized skills:** The top skill is food safety, and the top certification is CDL Class A (Exhibits 8 and 9).

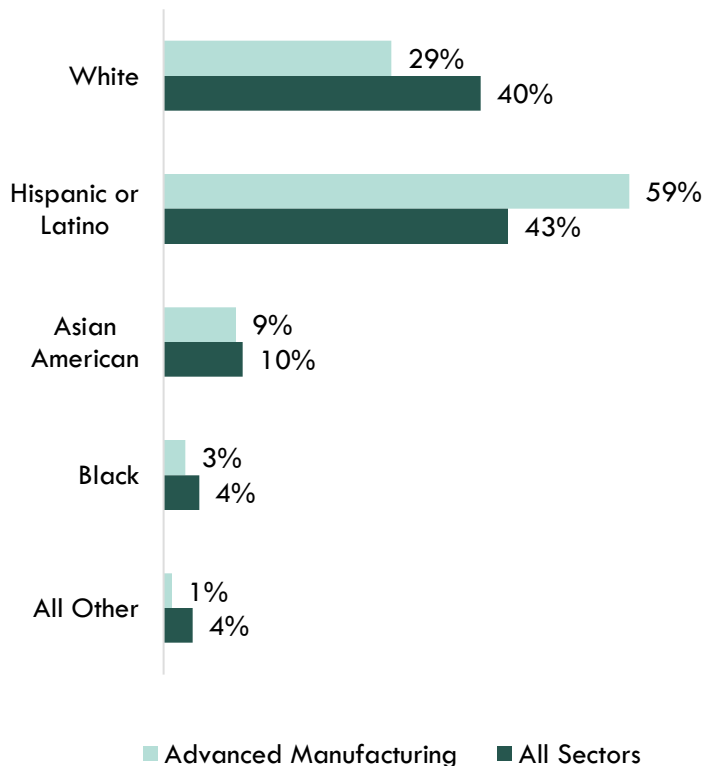
## Top Job Titles

- Plant Manager
- Production Supervisor
- Maintenance Mechanic

**Exhibit 3. Gender composition of the top occupations in the advanced manufacturing workforce**



**Exhibit 4. Race/ethnicity composition of the top occupations in the advanced manufacturing workforce**





**Exhibit 5. Advanced manufacturing employment and occupational projections**

OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Packaging and Filling Machine Operators and Tenders	988	948	(41)	(4%)	105
Welders, Cutters, Solderers, and Brazers	320	357	37	11%	43
Inspectors, Testers, Sorters, Samplers, and Weighers	307	307	0	0%	37
First-Line Supervisors of Production and Operating Workers	344	355	12	3%	36
Industrial Machinery Mechanics	303	333	30	10%	33
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	180	181	2	1%	19

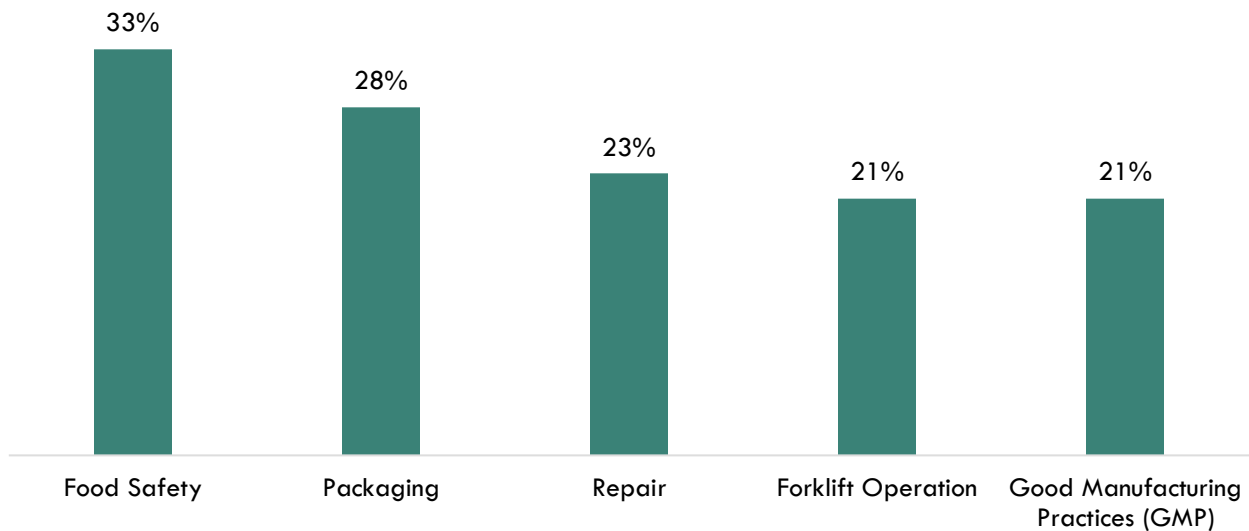
**Exhibit 6. Advanced manufacturing wages**

OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
First-Line Supervisors of Production and Operating Workers	\$22.26	\$28.96
Industrial Machinery Mechanics	\$20.41	\$27.99
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	\$17.75	\$27.05
Welders, Cutters, Solderers, and Brazers	\$17.58	\$22.10
Inspectors, Testers, Sorters, Samplers, and Weighers	\$14.21	\$17.30
Packaging and Filling Machine Operators and Tenders	\$14.02	\$16.78

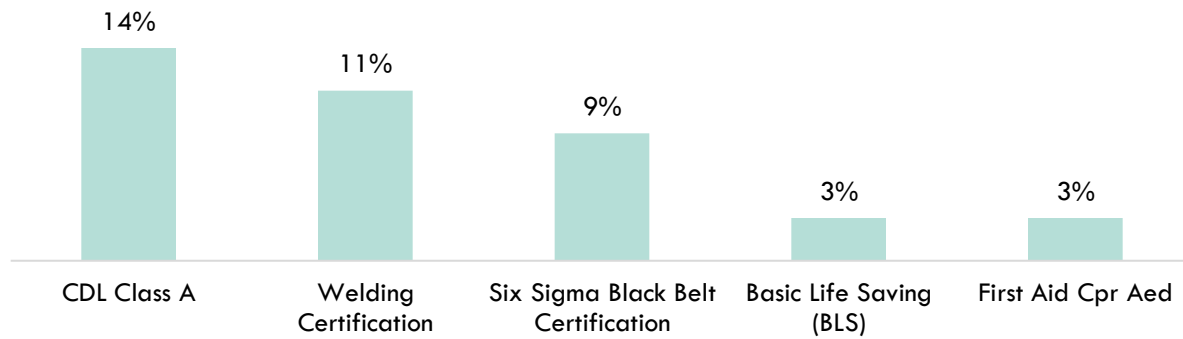


**Exhibit 7. Advanced manufacturing educational attainment**

OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
Packaging and Filling Machine Operators and Tenders	High school diploma or equivalent	None	Moderate-term	21.1%
Welders, Cutters, Solderers, and Brazers	High school diploma or equivalent	None	Moderate-term	32.2%
Inspectors, Testers, Sorters, Samplers, and Weighers	High school diploma or equivalent	None	Moderate-term	38.0%
First-Line Supervisors of Production and Operating Workers	High school diploma or equivalent	Less than 5 years	None	35.2%
Industrial Machinery Mechanics	High school diploma or equivalent	None	Long-term	40.9%
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	High school diploma or equivalent	None	Moderate-term	34.5%

**Exhibit 8. Top specialized skills in job postings for advanced manufacturing (n = 150)**

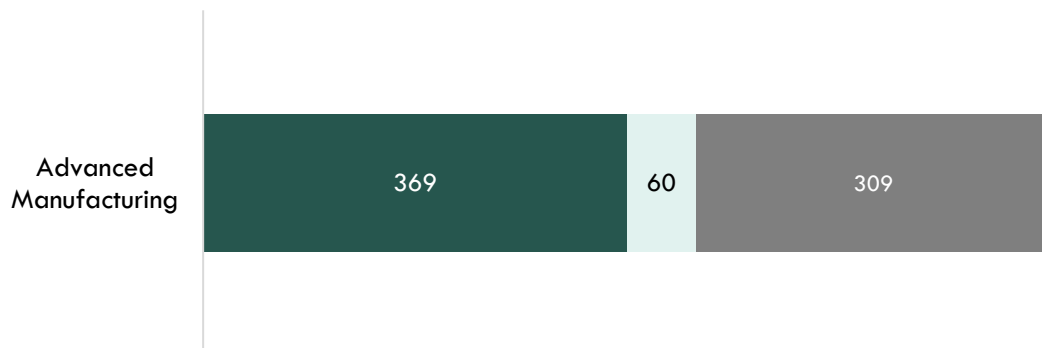
**Exhibit 9. Top certifications in job postings for advanced manufacturing (n = 35)**



**Exhibit 10. Advanced manufacturing postsecondary supply**

TOP/ CIP Code- Title	College	Associate Degree	Certificate 16 < 30 Semester Units	Certificate 18 < 30 Semester Units	Certificate 30 < 60 Semester Units	Certificate 6 < 18 Semester Units	Subtotal
092400 - Engineering Technology, General (requires Trigonometry)	Merced	0					0
093400 - Electronics and Electric Technology	Merced	1			2		3
094300 - Instrumentation Technology	Merced	1			1		3
094500 - Industrial Systems Technology and Maintenance	Merced	1			1		1
095650 - Welding Technology	Merced	4	2	5		41	53
<b>TOTAL</b>		<b>8</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>41</b>	<b>60</b>

**Exhibit 11. Advanced manufacturing annual demand and supply**



# ADVANCED TRANSPORTATION & LOGISTICS

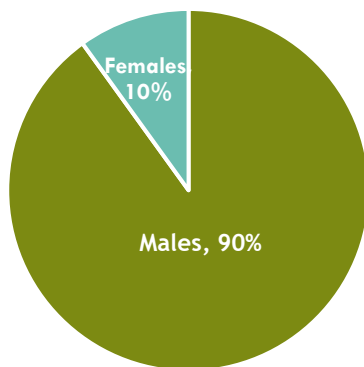
## Summary

- **Gender & race/ethnicity:** Comprising 10% of the workforce, women are underrepresented in this sector. Analysis shows underrepresentation of white workers and overrepresentation of Hispanic or Latino workers (Exhibits 12 and 13).
- **Employment and projected demand:** The largest middle-skill occupation is heavy and tractor-trailer truck drivers, has 235 annual openings (Exhibit 14).
- **Wages:** The highest paid occupation is first-line supervisors of mechanics, installers, and repairers, \$36.31/hour median earnings (Exhibit 15).
- **Specialized skills:** The top skill is repair, and the top certification is CDL Class A (Exhibits 17 and 18).

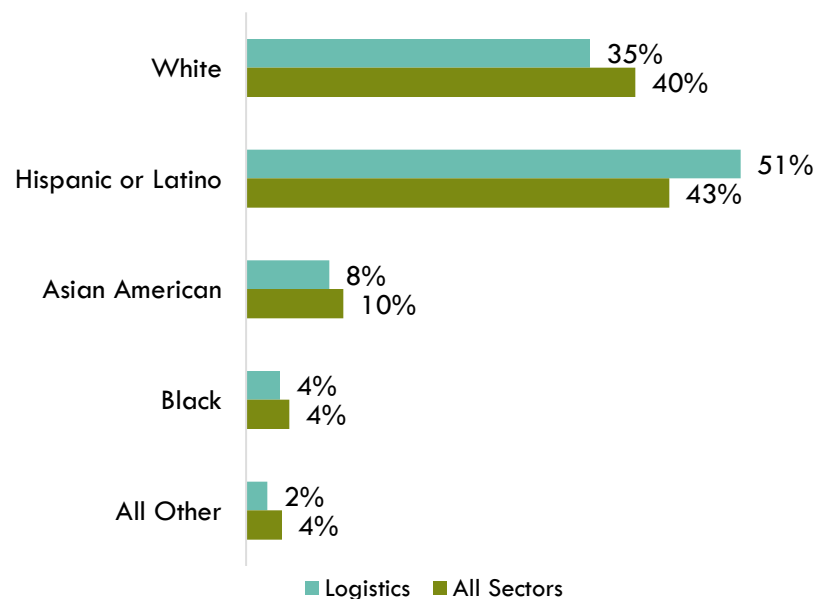
## Top Job Titles

- **Truck Driver**
- **Driver**
- **Truck Service Advisor**

**Exhibit 12. Gender composition of the top occupations in the advanced transportation and logistics workforce**



**Exhibit 13. Race/ethnicity composition of the top occupations in the advanced transportation and logistics workforce**



**Exhibit 14. Advanced transportation and logistics employment and occupational projections**

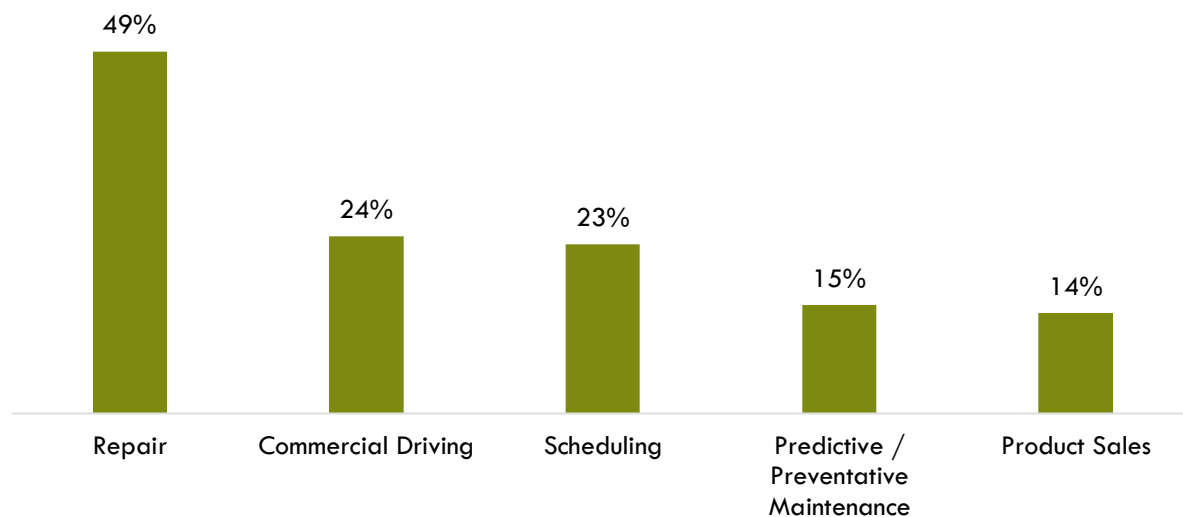
OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Heavy and Tractor-Trailer Truck Drivers	1,912	2,019	107	6%	235
Automotive Service Technicians and Mechanics	451	455	4	1%	45
Shipping, Receiving, and Inventory Clerks	405	398	(7)	(2%)	39
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	259	282	24	9%	33
First-Line Supervisors of Mechanics, Installers, and Repairers	254	263	9	4%	25
Bus and Truck Mechanics and Diesel Engine Specialists	205	214	9	4%	21

**Exhibit 15. Advanced transportation and logistics wages**

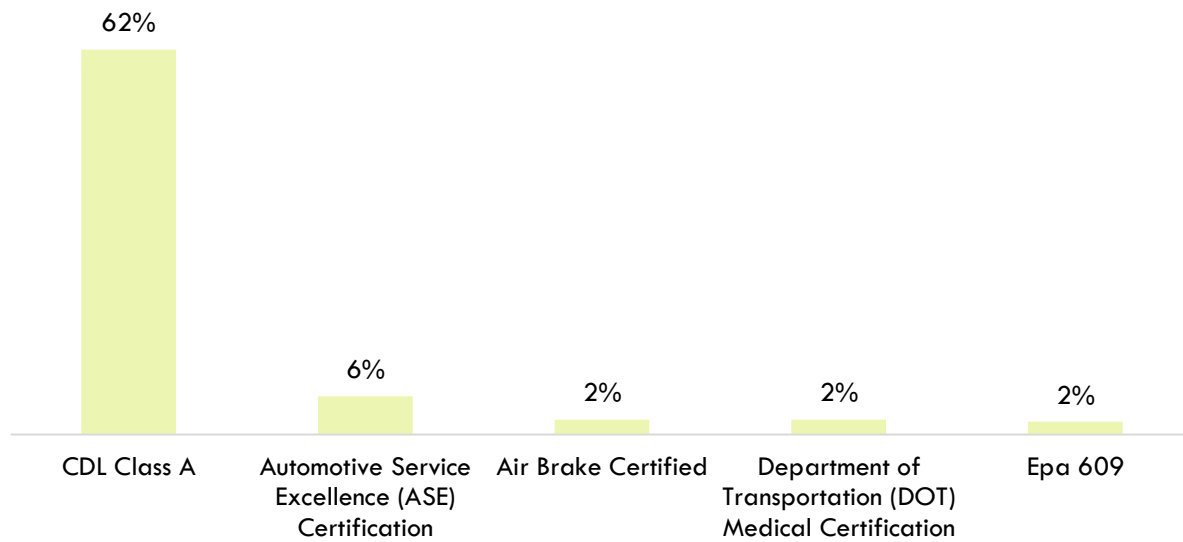
OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
First-Line Supervisors of Mechanics, Installers, and Repairers	\$27.86	\$36.31
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	\$18.49	\$23.60
Bus and Truck Mechanics and Diesel Engine Specialists	\$17.83	\$22.54
Heavy and Tractor-Trailer Truck Drivers	\$17.02	\$22.45
Automotive Service Technicians and Mechanics	\$14.94	\$20.60
Shipping, Receiving, and Inventory Clerks	\$17.21	\$17.69

**Exhibit 16. Advanced transportation and logistics educational attainment**

OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
Heavy and Tractor-Trailer Truck Drivers	Postsecondary nondegree award	None	Short-term	29.8%
Automotive Service Technicians and Mechanics	Postsecondary nondegree award	None	Short-term	35.7%
Shipping, Receiving, and Inventory Clerks	High school diploma or equivalent	None	Short-term	33.8%
First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	High school diploma or equivalent	Less than 5 years	None	39.4%
First-Line Supervisors of Mechanics, Installers, and Repairers	High school diploma or equivalent	Less than 5 years	None	41.7%
Bus and Truck Mechanics and Diesel Engine Specialists	High school diploma or equivalent	None	Long-term	36.4%

**Exhibit 17. Top specialized skills in job postings for advanced transportation and logistics (n = 184)**

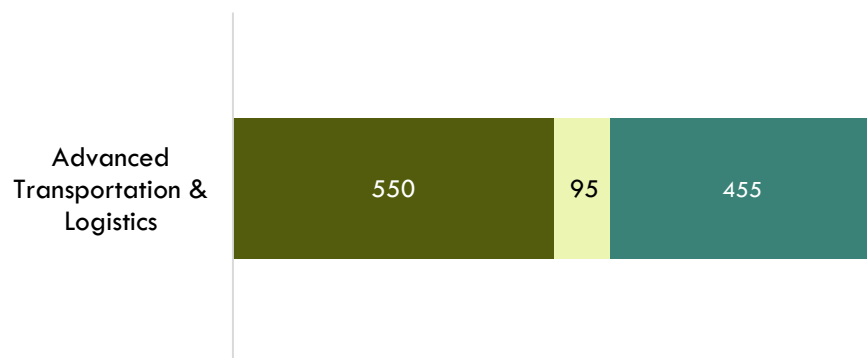
**Exhibit 18. Top certifications in job postings for advanced transportation and logistics (n = 247)**



**Exhibit 19. Advanced transportation and logistics postsecondary supply**

TOP/ CIP Code- Title	College	Associate Degree	Certificate 16 < 30 Semester Units	Certificate 18 < 30 Semester Units	Certificate 30 < 60 Semester Units	Subtotal
094800 - Automotive Technology	Merced	8	9	29	32	78
094900 - Automotive Collision Repair	Merced			1		1
095340 - Mechanical Drafting	Merced	5	3	4	5	16
<b>TOTAL</b>		<b>13</b>	<b>12</b>	<b>34</b>	<b>37</b>	<b>95</b>

**Exhibit 20. Advanced transportation and logistics annual demand and supply**



# AGRICULTURE, WATER & ENVIRONMENTAL TECHNOLOGIES

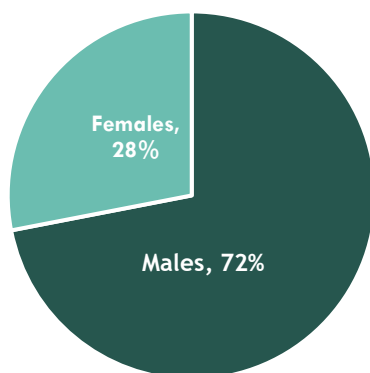
## Summary

- **Gender & race/ethnicity:** Comprising 28% of the workforce, women are underrepresented in this sector. Analysis shows overrepresentation of white workers (Exhibits 21 and 22).
- **Employment and projected demand:** The largest middle-skill occupation is farmers, ranchers, and other agricultural managers, has 338 annual openings (Exhibit 23).
- **Wages:** The highest paid occupation is compliance officers, \$30.69/hour median earnings (Exhibit 24).
- **Specialized skills:** The top skill is sales, and the top certification is property and casualty license (Exhibits 26 and 27).

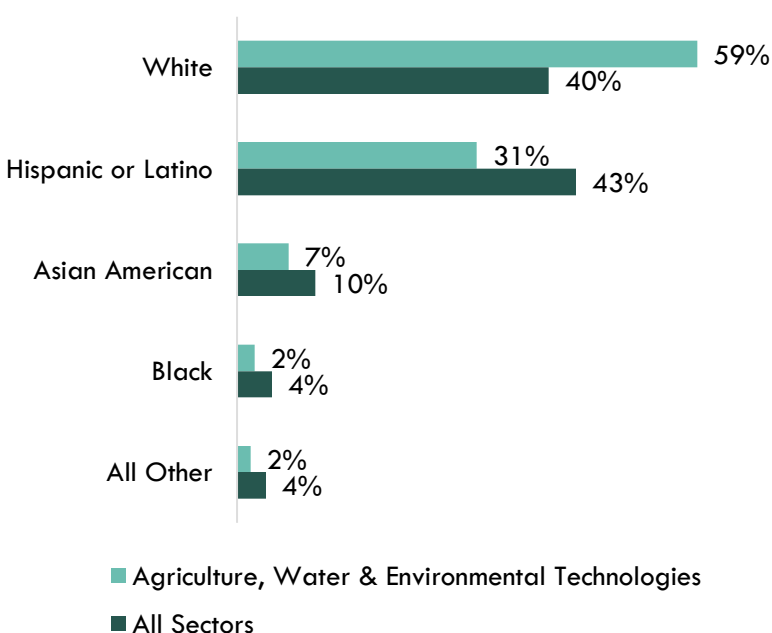
## Top Job Titles

- Sales Representative- Home
- Sales Representative
- Outside Sales Representative

**Exhibit 21. Gender composition of the top occupations in the advanced manufacturing workforce**



**Exhibit 22. Race/ethnicity composition of the top occupations in the advanced manufacturing workforce**





**Exhibit 23. Agriculture, water and environmental technologies employment and occupational projections**

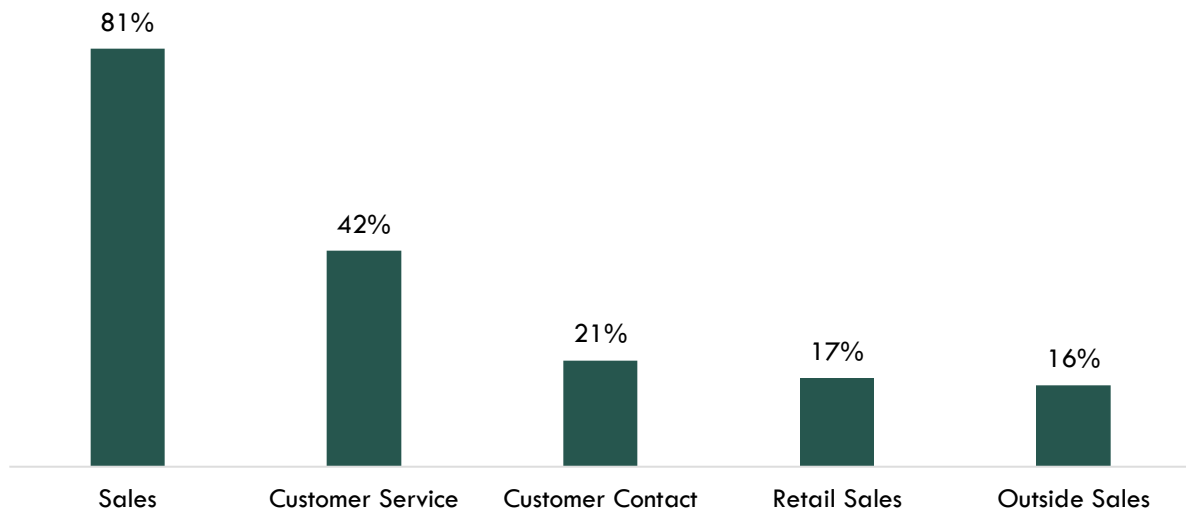
OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Farmers, Ranchers, and Other Agricultural Managers	3,105	3,268	163	5%	338
Agricultural Equipment Operators	508	573	66	13%	98
First-Line Supervisors of Farming, Fishing, and Forestry Workers	437	484	47	11%	74
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	439	450	11	3%	45
Compliance Officers	212	215	3	1%	17
Buyers and Purchasing Agents	128	131	3	2%	13
Cost Estimators	107	113	6	6%	11
Farm Equipment Mechanics and Service Technicians	97	103	6	6%	11
Animal Trainers	82	86	4	5%	11
Mobile Heavy Equipment Mechanics, Except Engines	88	95	7	8%	10

**Exhibit 24. Agriculture, water, and environmental technologies wages**

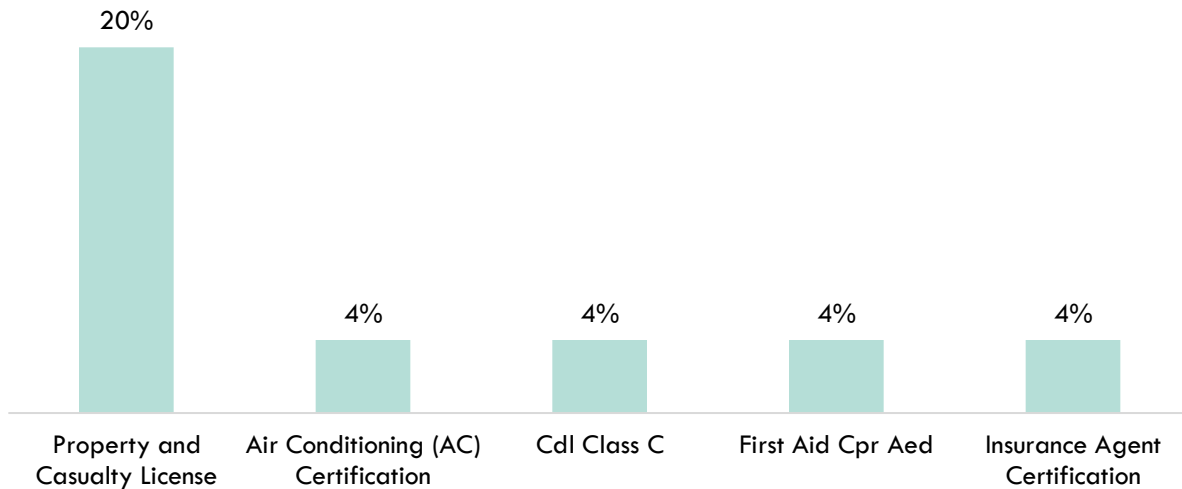
OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
Compliance Officers	\$27.45	\$30.69
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$21.53	\$29.33
Cost Estimators	\$22.92	\$29.18
Mobile Heavy Equipment Mechanics, Except Engines	\$22.37	\$28.59
Buyers and Purchasing Agents	\$21.72	\$28.47
Farm Equipment Mechanics and Service Technicians	\$18.18	\$22.28
First-Line Supervisors of Farming, Fishing, and Forestry Workers	\$15.48	\$19.67
Farmers, Ranchers, and Other Agricultural Managers	\$14.00	\$16.77
Animal Trainers	\$12.01	\$16.03
Agricultural Equipment Operators	\$14.01	\$14.11

**Exhibit 25. Agriculture, water, and environmental technologies educational attainment**

OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	5 years or more	None	30.2%
Agricultural Equipment Operators	No formal educational credential	None	Moderate-term	14.9%
First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	Less than 5 years	None	21.9%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	High school diploma or equivalent	None	Moderate-term	32.1%
Compliance Officers	Bachelor's degree	None	Moderate-term	25.5%
Buyers and Purchasing Agents	Bachelor's degree	None	Moderate-term	33.6%
Cost Estimators	Bachelor's degree	None	Moderate-term	37.4%
Farm Equipment Mechanics and Service Technicians	High school diploma or equivalent	None	Long-term	35.2%
Animal Trainers	High school diploma or equivalent	None	Moderate-term	32.0%
Mobile Heavy Equipment Mechanics, Except Engines	High school diploma or equivalent	None	Long-term	35.2%

**Exhibit 26. Top specialized skills in job postings for agriculture, water, and environmental technologies (n = 146)**

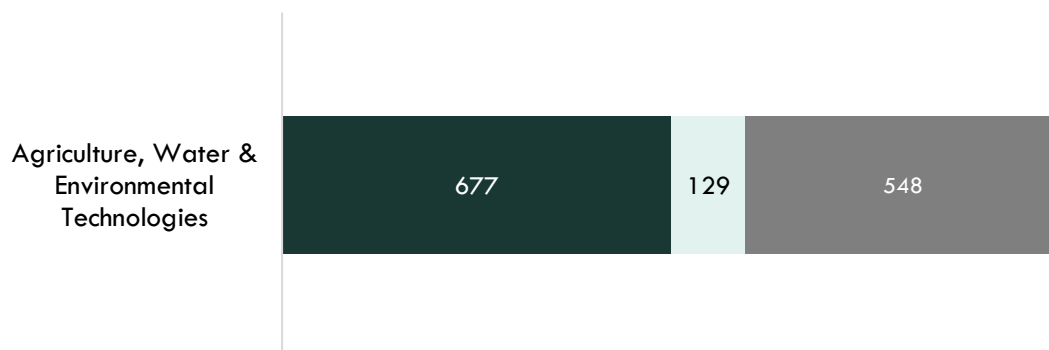
**Exhibit 27. Top certifications in job postings for agriculture, water, and environmental technologies (n = 49)**



**Exhibit 28. Agriculture, water, and environmental technologies postsecondary supply**

TOP/ CIP Code- Title	College	Associate Degree	Associate for Transfer Degree	Certificate 12 < 18 Semester Units	Certificate 16 < 30 Semester Units	Certificate 18 < 30 Semester Units	Certificate 30 < 60 Semester Units	Subtotal
010100 - Agriculture Technology and Sciences, General	Merced	9						9
010200 - Animal Science	Merced	9					1	10
010300 - Plant Science	Merced	3				1		4
010900 - Horticulture	Merced	4					0	5
011200 - Agriculture Business, Sales and Service	Merced	16	18				4	38
011600 - Agricultural Power Equipment Technology	Merced	5			3	8	46	63
043000 - Biotechnology and Biomedical Technology	Merced	0		0	0			1
<b>TOTAL</b>		<b>46</b>	<b>18</b>	<b>0</b>	<b>4</b>	<b>9</b>	<b>52</b>	<b>129</b>

**Exhibit 29. Agriculture, water, and environmental technologies annual demand and supply**



# BUSINESS & ENTREPRENEURSHIP

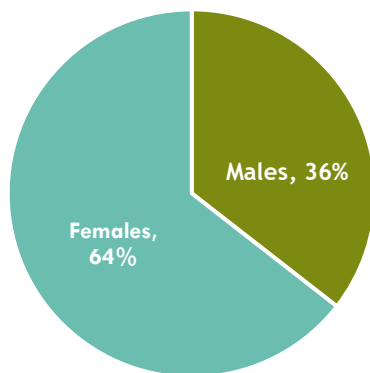
## Summary

- **Gender & race/ethnicity:** Comprising 36% of the workforce, men are underrepresented in this sector. Analysis shows an overrepresentation of white workers (Exhibits 30 and 31).
- **Employment and projected demand:** The largest middle-skill occupation, general and operations managers, has the most annual openings, 105 (Exhibit 32).
- **Wages:** The highest paid occupation is sales representatives, wholesale and manufacturing, technical and scientific products, \$46.91/hour median earnings (Exhibit 33).
- **Specialized skills:** The top skill is customer service, and the top certification is a real estate certification (Exhibits 35 and 36).

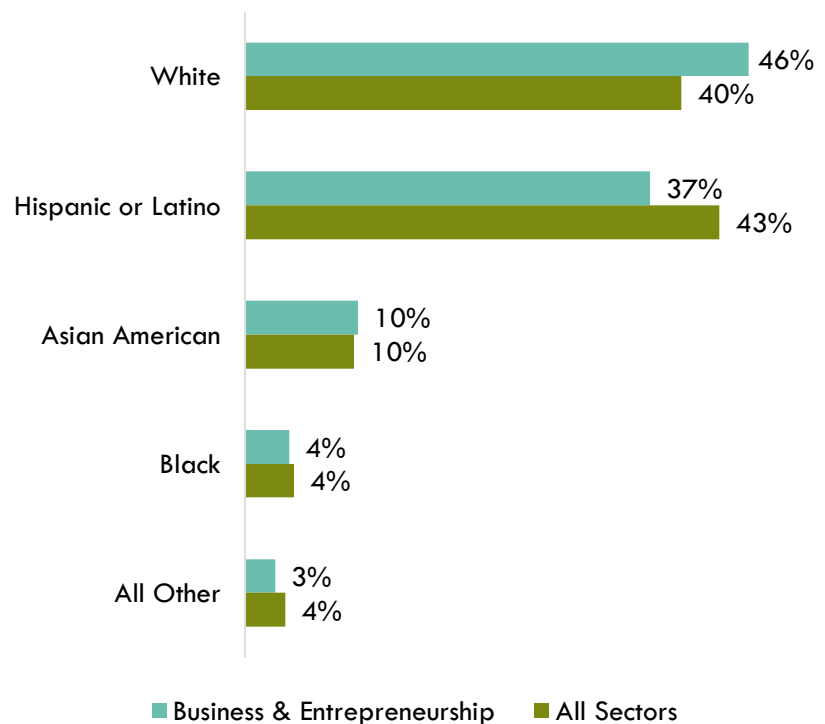
## Top Job Titles

- Customer Service Representative
- Customer Service
- Customer Service Associate

**Exhibit 30. Gender composition of the top occupations in the business and entrepreneurship workforce**



**Exhibit 31. Race/ethnicity composition of the top occupations in the business and entrepreneurship workforce**



**Exhibit 32. Business and entrepreneurship employment and occupational projections**

OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
General and Operations Managers	985	1,085	100	10%	105
Customer Service Representatives	732	769	37	5%	102
Bookkeeping, Accounting, and Auditing Clerks	766	772	6	1%	86
First-Line Supervisors of Office and Administrative Support Workers	603	614	11	2%	62
Business Operations Specialists, All Other	523	539	16	3%	42
Billing and Posting Clerks	309	307	(2)	(1%)	32
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	268	265	(3)	(1%)	26
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	206	217	11	5%	26
Sales and Related Workers, All Other	178	188	10	6%	25
Insurance Sales Agents	229	249	20	9%	25
Office and Administrative Support Workers, All Other	211	214	3	1%	24
Human Resources Specialists	229	236	7	3%	23
Production, Planning, and Expediting Clerks	176	177	1	1%	18
Meeting, Convention, and Event Planners	146	154	8	5%	17
Tellers	155	124	(31)	(20%)	14
Real Estate Sales Agents	150	156	6	4%	14
Loan Officers	117	139	22	19%	14
Information and Record Clerks, All Other	110	112	2	2%	12
Court, Municipal, and License Clerks	114	117	3	3%	12
Training and Development Specialists	105	113	8	7%	11
Interviewers, Except Eligibility and Loan	87	85	(2)	(3%)	11
Property, Real Estate, and Community Association Managers	125	127	2	2%	10

**Exhibit 33. Business and entrepreneurship wages**

OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$31.53	\$46.91
General and Operations Managers	\$28.68	\$44.52
Human Resources Specialists	\$27.30	\$30.23
Real Estate Sales Agents	\$15.48	\$28.81
Loan Officers	\$17.36	\$28.81
First-Line Supervisors of Office and Administrative Support Workers	\$22.51	\$28.30
Training and Development Specialists	\$16.53	\$27.08
Business Operations Specialists, All Other	\$14.27	\$23.13
Production, Planning, and Expediting Clerks	\$18.13	\$22.65
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	\$17.52	\$22.53
Interviewers, Except Eligibility and Loan	\$17.71	\$22.42
Court, Municipal, and License Clerks	\$17.74	\$22.40
Information and Record Clerks, All Other	\$17.44	\$21.88
Bookkeeping, Accounting, and Auditing Clerks	\$17.42	\$21.74
Billing and Posting Clerks	\$17.53	\$21.56
Meeting, Convention, and Event Planners	\$16.58	\$20.57
Property, Real Estate, and Community Association Managers	\$14.21	\$18.47
Insurance Sales Agents	\$17.40	\$18.45
Sales and Related Workers, All Other	\$14.28	\$17.27
Tellers	\$16.69	\$17.11
Customer Service Representatives	\$14.34	\$16.64
Office and Administrative Support Workers, All Other	\$14.32	\$16.63

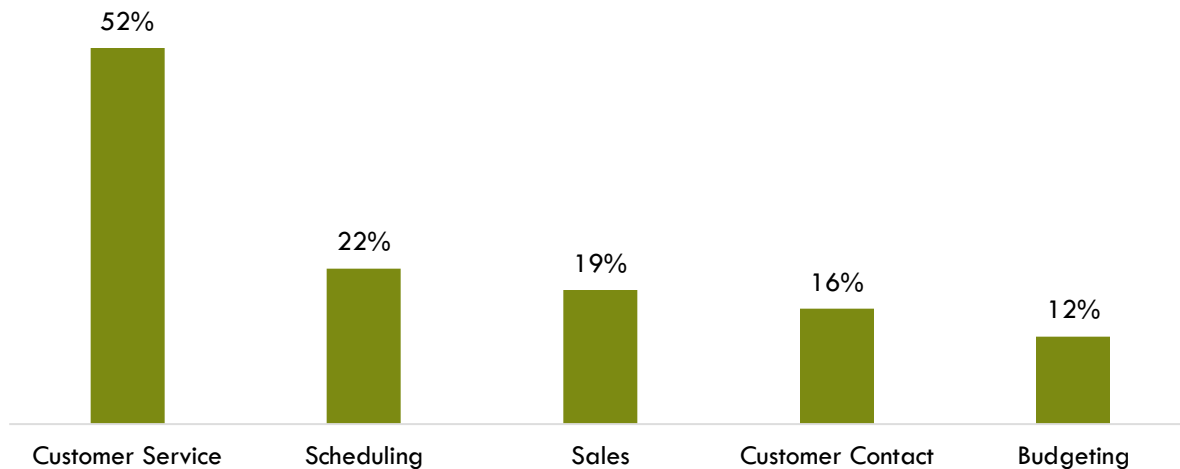
**Exhibit 34. Business and Entrepreneurship educational attainment**

OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
General and Operations Managers	Bachelor's degree	5 years or more	None	34.3%
Customer Service Representatives	High school diploma or equivalent	None	Short-term	41.9%
Bookkeeping, Accounting, and Auditing Clerks	Some college, no degree	None	Moderate-term	50.1%
First-Line Supervisors of Office and Administrative Support Workers	High school diploma or equivalent	Less than 5 years	None	41.4%
Business Operations Specialists, All Other	Bachelor's degree	None	None	22.2%
Billing and Posting Clerks	High school diploma or equivalent	None	Moderate-term	49.1%
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Bachelor's degree	None	Moderate-term	32.1%
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	High school diploma or equivalent	None	Moderate-term	29.2%
Sales and Related Workers, All Other	High school diploma or equivalent	None	None	28.1%
Insurance Sales Agents	High school diploma or equivalent	None	Moderate-term	36.5%
Office and Administrative Support Workers, All Other	High school diploma or equivalent	None	Short-term	40.7%
Human Resources Specialists	Bachelor's degree	None	None	24.6%
Production, Planning, and Expediting Clerks	High school diploma or equivalent	None	Moderate-term	39.8%
Meeting, Convention, and Event Planners	Bachelor's degree	None	None	24.6%
Tellers	High school diploma or equivalent	None	Short-term	45.4%
Real Estate Sales Agents	High school diploma or equivalent	None	Moderate-term	35.0%
Loan Officers	Bachelor's degree	Less than 5 years	Moderate-term	32.3%
Information and Record Clerks, All Other	High school diploma or equivalent	None	Short-term	44.1%

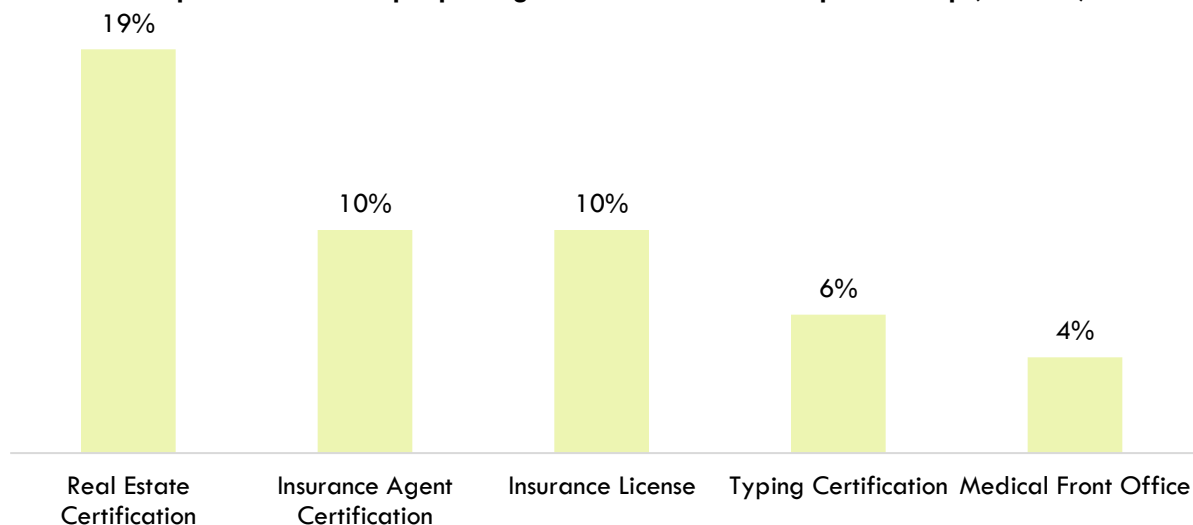


OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
Court, Municipal, and License Clerks	High school diploma or equivalent	None	Long-term	44.4%
Training and Development Specialists	Bachelor's degree	Less than 5 years	None	31.0%
Interviewers, Except Eligibility and Loan	High school diploma or equivalent	None	Short-term	43.7%
Property, Real Estate, and Community Association Managers	High school diploma or equivalent	Less than 5 years	None	34.1%

**Exhibit 35. Top specialized skills in job postings for business and entrepreneurship (n = 732)**



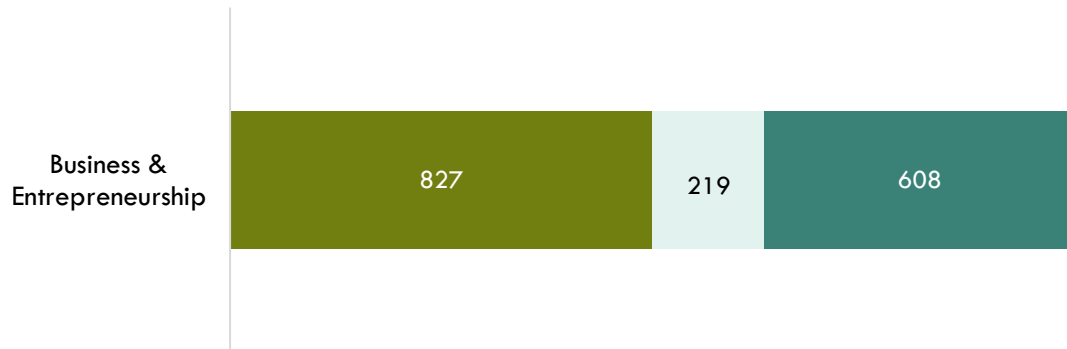
**Exhibit 36. Top certifications in job postings for business and entrepreneurship (n = 201)**



### Exhibit 37. Business and entrepreneurship postsecondary supply

TOP/ CIP Code- Title	College	Associate Degree	Associate for Transfer Degree	Certificate 30 < 60 Semester Units	Certificate 6 < 18 Semester Units	Credit Award, < 6 Semester Units	Subtotal
050100 - Business and Commerce, General	Merced	22		3			25
050200 - Accounting	Merced	17		5			21
050500 - Business Administration	Merced	0	118				118
050630 - Management Development and Supervision	Merced	2		1		39	42
050640 - Small Business and Entrepreneurship	Merced	3		2			5
050900 - Marketing and Distribution	Merced	3		2			5
051100 - Real Estate	Merced	0			3		4
<b>TOTAL</b>		<b>48</b>	<b>118</b>	<b>12</b>	<b>3</b>	<b>39</b>	<b>219</b>

### Exhibit 38. Business and entrepreneurship annual demand and supply



# EDUCATION

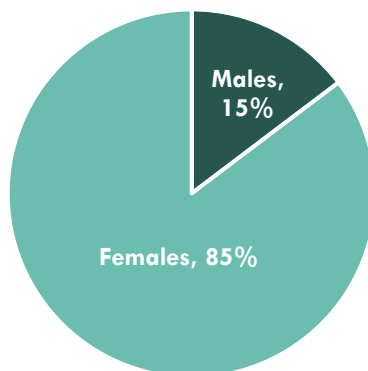
## Summary

- **Gender & race/ethnicity:** Comprising 15% of the workforce, men are underrepresented in this sector. Analysis shows underrepresentation of white workers and overrepresentation of Hispanic or Latino workers (Exhibits 39 and 40).
- **Employment and projected demand:** The largest middle-skill occupation is teaching assistants, except postsecondary, has 130 annual openings (Exhibit 41).
- **Wages:** The highest paid occupation is library technicians, \$22.11/hour median earnings (Exhibit 42).
- **Specialized skills:** The top skill is teaching, and the top certification is first aid/CPR/AED (Exhibits 44 and 45).

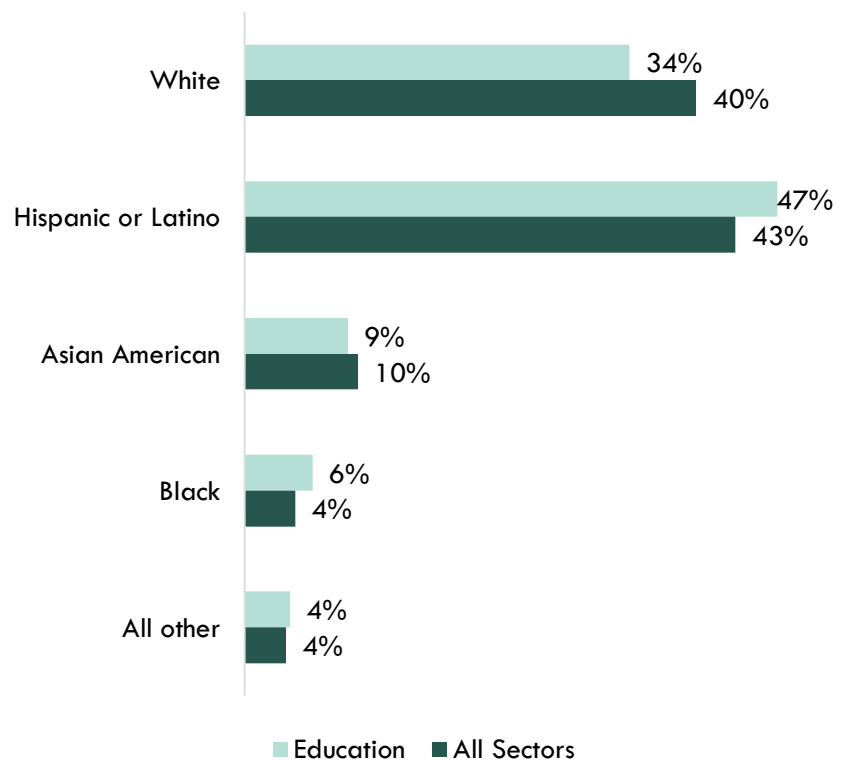
## Top Job Titles

- **Babysitter**
- **Activities Assistant**
- **Activities Coordinator**

**Exhibit 39. Gender composition of the top occupations in the education workforce**



**Exhibit 40. Race/ethnicity composition of the top occupations in the education workforce**



**Exhibit 41. Education employment and occupational projections**

OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Teaching Assistants, Except Postsecondary	1,291	1,346	55	4%	130
Childcare Workers	751	683	(68)	(9%)	99
Substitute Teachers, Short-Term	726	767	41	6%	92
Preschool Teachers, Except Special Education	238	261	23	10%	29
Recreation Workers	99	102	3	3%	16
Library Technicians	66	65	(1)	(2%)	10

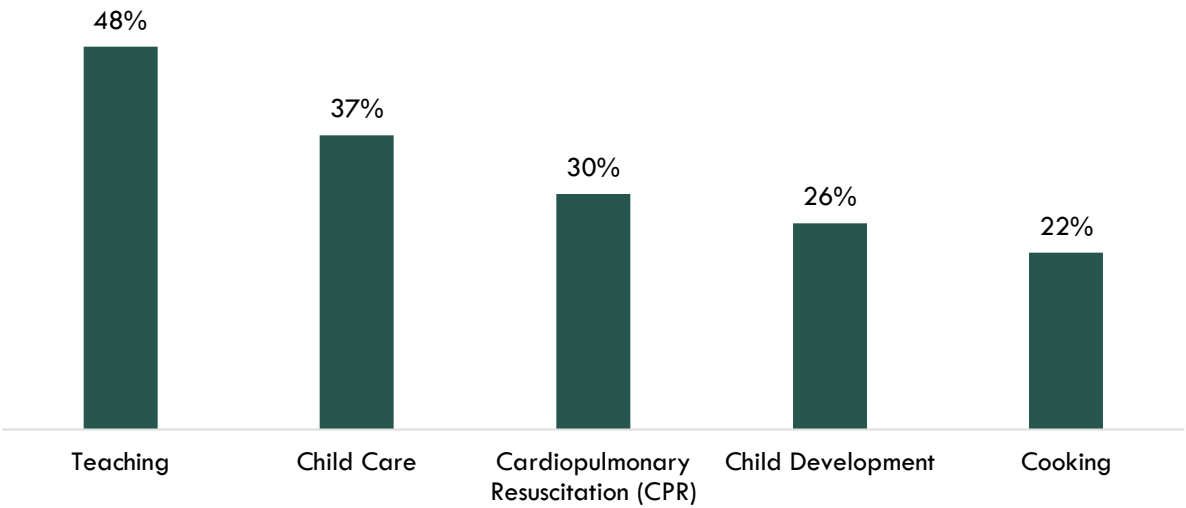
**Exhibit 42. Education wages**

OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
Library Technicians	\$18.17	\$22.11
Preschool Teachers, Except Special Education	\$16.07	\$17.55
Teaching Assistants, Except Postsecondary	\$14.18	\$17.42
Substitute Teachers, Short-Term	\$14.39	\$17.38
Recreation Workers	\$14.29	\$14.39
Childcare Workers	\$13.28	\$14.35

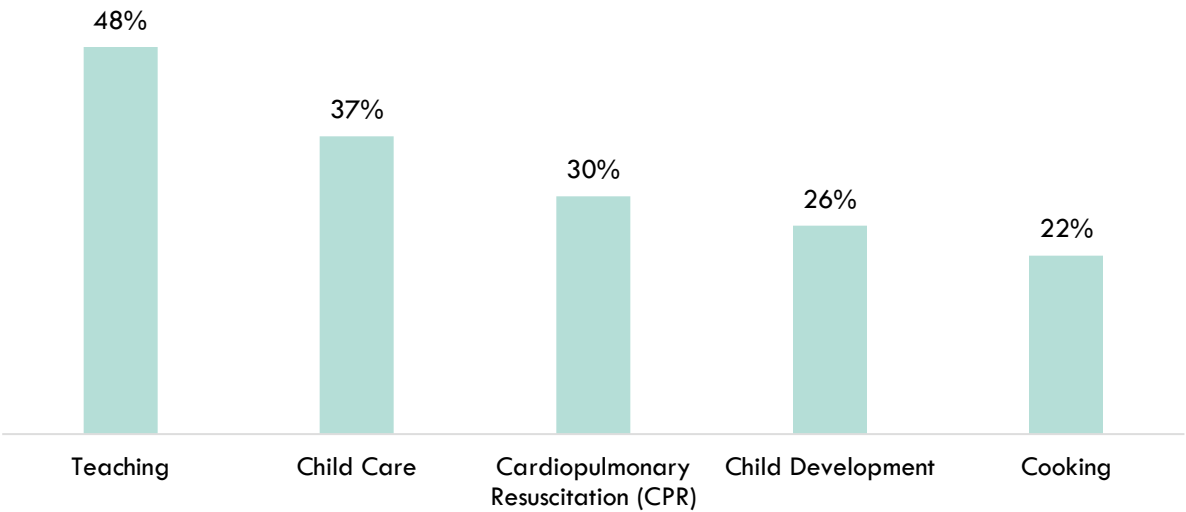
**Exhibit 43. Education educational attainment**

OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
Teaching Assistants, Except Postsecondary	Some college, no degree	None	None	38.6%
Childcare Workers	High school diploma or equivalent	None	Short-term	35.1%
Substitute Teachers, Short-Term	Bachelor's degree	None	None	25.4%
Preschool Teachers, Except Special Education	Associate's degree	None	None	31.6%
Recreation Workers	High school diploma or equivalent	None	Short-term	35.7%
Library Technicians	Postsecondary nondegree award	None	None	25.9%

**Exhibit 44. Top specialized skills in job postings for education (n= 27)**

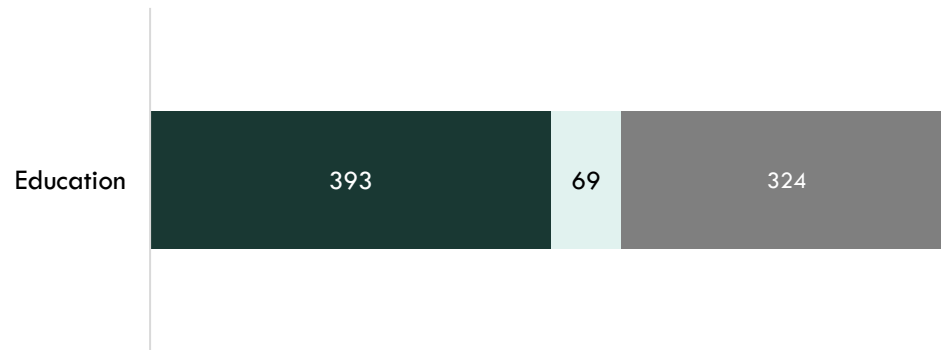


**Exhibit 45. Top certifications in job postings for education (n = 18)**



**Exhibit 46. Education postsecondary supply**

TOP/ CIP Code- Title	College	Associate Degree	Associate for Transfer Degree	Certificate 30 < 60 Semester Units	Subtotal
130500 - Child Development/Early Care and Education	Merced	25	34	10	69
<b>TOTAL</b>		<b>25</b>	<b>34</b>	<b>10</b>	<b>69</b>

**Exhibit 47. Education annual demand and supply**

# ENERGY, CONSTRUCTION & UTILITIES

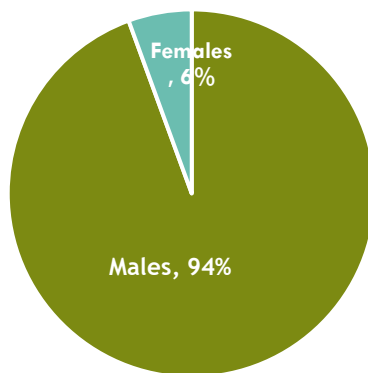
## Summary

- **Gender & race/ethnicity:** Comprising 6% of the workforce, women are underrepresented in this sector. Analysis shows underrepresentation of Asian American workers and overrepresentation of Hispanic or Latino and white workers (Exhibits 48 and 49).
- **Employment and projected demand:** The largest middle-skill occupation is industrial truck and tractor operators, has 86 annual openings (Exhibit 50).
- **Wages:** The highest paid occupation is construction managers, \$34.38/hour median earnings (Exhibit 51).
- **Specialized skills:** The top skill is repair, and the top certification is an OSHA forklift certification (Exhibits 53 and 54).

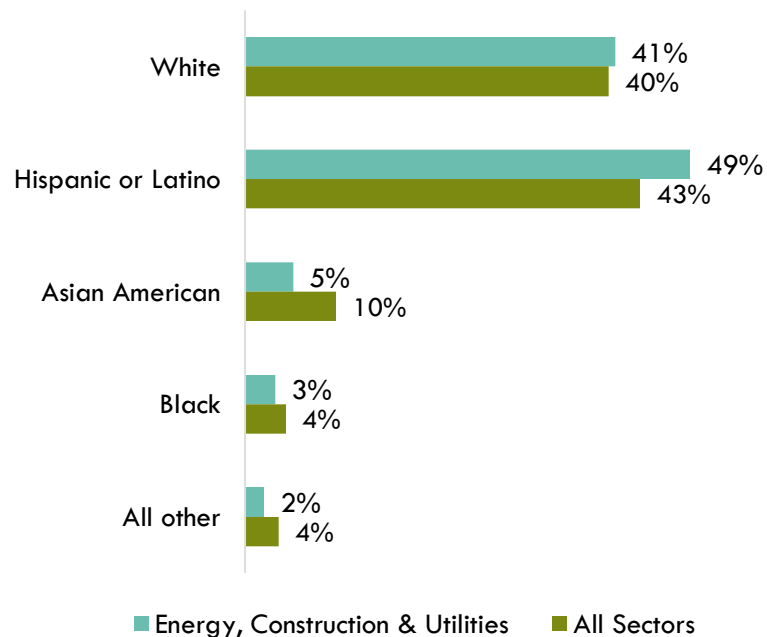
## Top Job Titles

- **Maintenance Technician**
- **Forklift Operator**
- **Maintenance Mechanic**

**Exhibit 48. Gender composition of the top occupations in the energy, construction, and utilities workforce**



**Exhibit 49. Race/ethnicity composition of the top occupations in the energy, construction, and utilities workforce**





**Exhibit 50. Energy, construction and utilities employment and occupational projections**

OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Industrial Truck and Tractor Operators	729	760	31	4%	86
Maintenance and Repair Workers, General	823	856	33	4%	86
Carpenters	548	613	65	12%	66
First-Line Supervisors of Construction Trades and Extraction Workers	271	309	38	14%	35
Operating Engineers and Other Construction Equipment Operators	176	198	22	12%	24
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	187	207	20	11%	22
Construction Managers	207	238	31	15%	22
Plumbers, Pipefitters, and Steamfitters	156	178	22	14%	21
Electricians	178	167	(11)	(6%)	18
Installation, Maintenance, and Repair Workers, All Other	137	139	2	1%	15
Water and Wastewater Treatment Plant and System Operators	120	116	(4)	(3%)	11

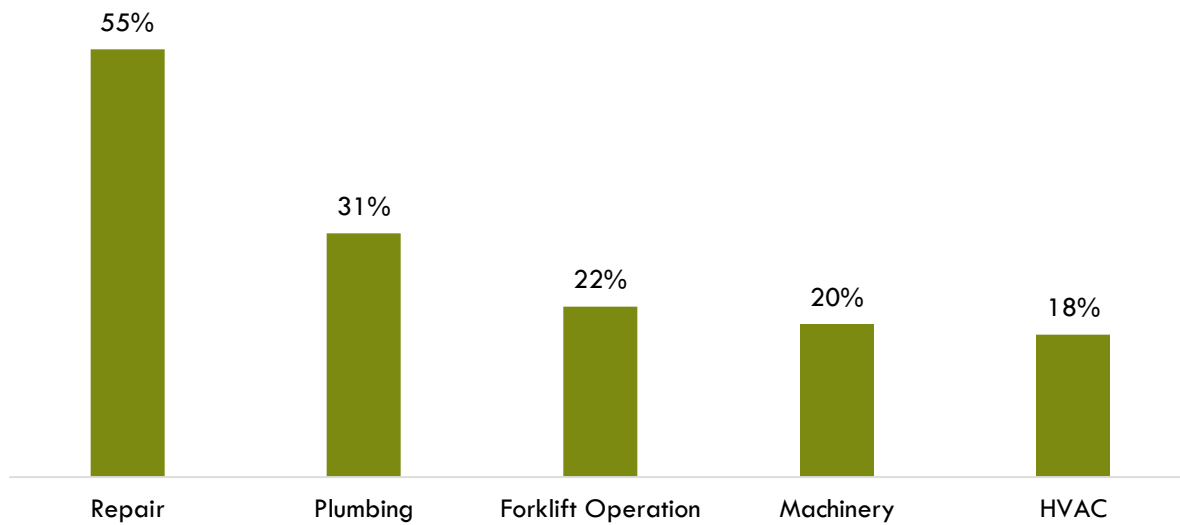
**Exhibit 51. Energy, construction and utilities employment wages**

OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
Construction Managers	\$19.42	\$34.38
First-Line Supervisors of Construction Trades and Extraction Workers	\$25.78	\$33.16
Operating Engineers and Other Construction Equipment Operators	\$26.79	\$29.20
Electricians	\$23.18	\$28.72
Water and Wastewater Treatment Plant and System Operators	\$22.40	\$28.31
Plumbers, Pipefitters, and Steamfitters	\$19.82	\$26.75
Carpenters	\$18.85	\$25.29
Maintenance and Repair Workers, General	\$17.51	\$22.61
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$21.08	\$22.46
Installation, Maintenance, and Repair Workers, All Other	\$16.39	\$21.01
Industrial Truck and Tractor Operators	\$16.40	\$18.08

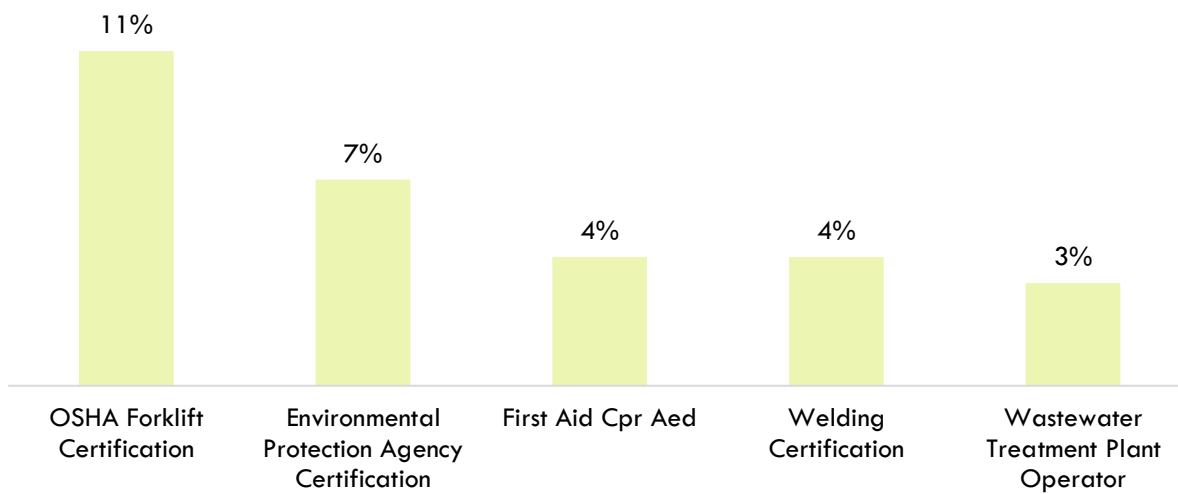
**Exhibit 52. Energy, construction and utilities educational attainment**

OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
Industrial Truck and Tractor Operators	No formal educational credential	None	Short-term	26.4%
Maintenance and Repair Workers, General	High school diploma or equivalent	None	Moderate-term	37.4%
Carpenters	High school diploma or equivalent	None	Apprenticeship	25.1%
First-Line Supervisors of Construction Trades and Extraction Workers	High school diploma or equivalent	5 years or more	None	29.2%
Operating Engineers and Other Construction Equipment Operators	High school diploma or equivalent	None	Moderate-term	24.5%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Postsecondary nondegree award	None	Long-term	44.0%
Construction Managers	Bachelor's degree	None	Moderate-term	31.5%
Plumbers, Pipefitters, and Steamfitters	High school diploma or equivalent	None	Apprenticeship	32.9%
Electricians	High school diploma or equivalent	None	Apprenticeship	45.8%
Installation, Maintenance, and Repair Workers, All Other	High school diploma or equivalent	None	Moderate-term	36.8%
Water and Wastewater Treatment Plant and System Operators	High school diploma or equivalent	None	Long-term	47.0%

**Exhibit 53. Top specialized skills in job postings for energy, construction and utilities (n = 223)**



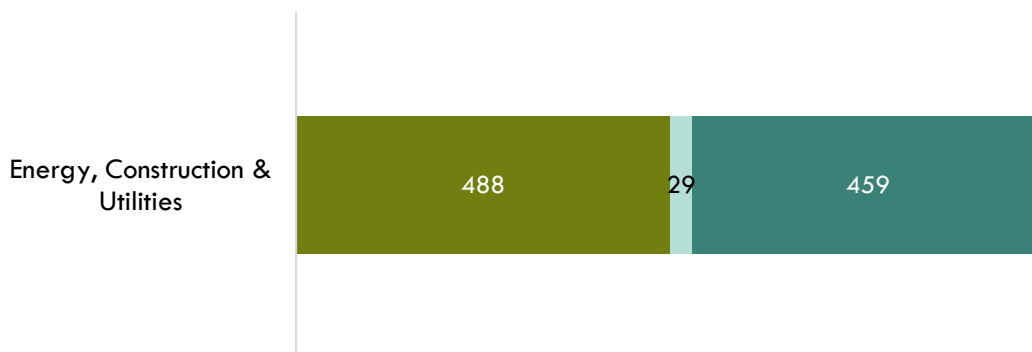
**Exhibit 54. Top certifications in job postings for energy, construction and utilities (n = 115)**



**Exhibit 55. Energy, construction and utilities postsecondary supply**

TOP/ CIP Code- Title	College	Associate Degree	Certificate 16 < 30 Semester Units	Certificate 30 < 60 Semester Units	Subtotal
094600 - Environmental Control Technology	Merced	2		2	4
095220 - Electrical	Merced	4		20	25
095300 - Drafting Technology	Merced	0			0
095310 - Architectural Drafting	Merced		0		0
<b>TOTAL</b>		<b>7</b>	<b>0</b>	<b>22</b>	<b>29</b>

**Exhibit 56. Energy, construction and utilities annual demand and supply**



# HEALTH

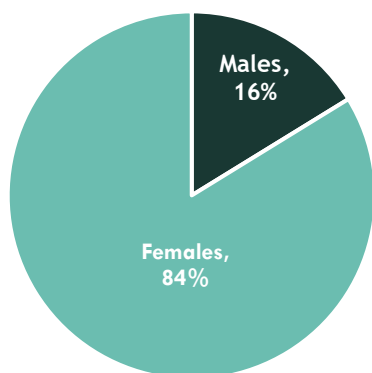
## Summary

- **Gender & race/ethnicity:** Comprising 16% of the workforce, men are underrepresented in this sector. Analysis shows underrepresentation of white workers, and overrepresentation of Asian American and Hispanic or Latino workers (Exhibits 57 and 58).
- **Employment and projected demand:** The largest middle-skill occupation is home health and personal care aides, has 605 annual openings (Exhibit 59).
- **Wages:** The highest paid occupation is registered nurses, \$48.79/hour median earnings (Exhibit 60).
- **Specialized skills:** The top skill is Advanced Cardiac Life Support (ACLS), and the top certification is registered nurse (Exhibits 62 and 63).

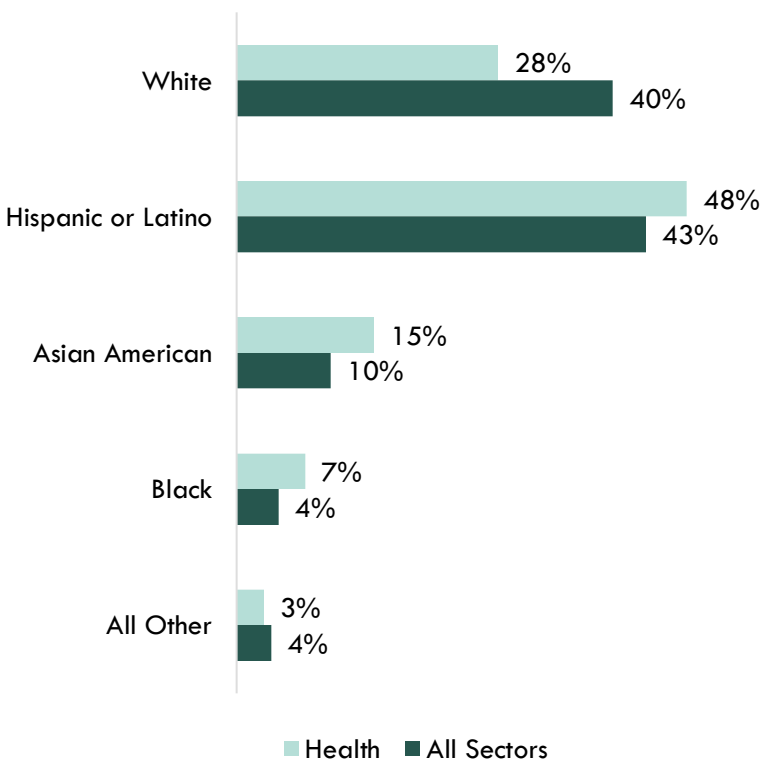
## Top Job Titles

- Registered Nurse
- Licensed Vocational Nurse
- Medical Assistant

**Exhibit 57. Gender composition of the top occupations in the health workforce**



**Exhibit 58. Race/ethnicity composition of the top occupations in the health workforce**



**Exhibit 59. Health care employment and occupational projections**

OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Home Health and Personal Care Aides	3,414	4,162	748	22%	605
Medical Assistants	491	513	23	5%	63
Registered Nurses	837	915	78	9%	61
Medical Secretaries and Administrative Assistants	400	420	19	5%	48
Nursing Assistants	361	369	8	2%	46
Social and Human Service Assistants	221	249	28	13%	33
Dental Assistants	215	229	15	7%	29
Licensed Practical and Licensed Vocational Nurses	253	257	4	2%	20
Pharmacy Technicians	166	194	28	17%	18
Phlebotomists	69	76	7	10%	10
Massage Therapists	67	75	9	13%	10

**Exhibit 60. Health care wages**

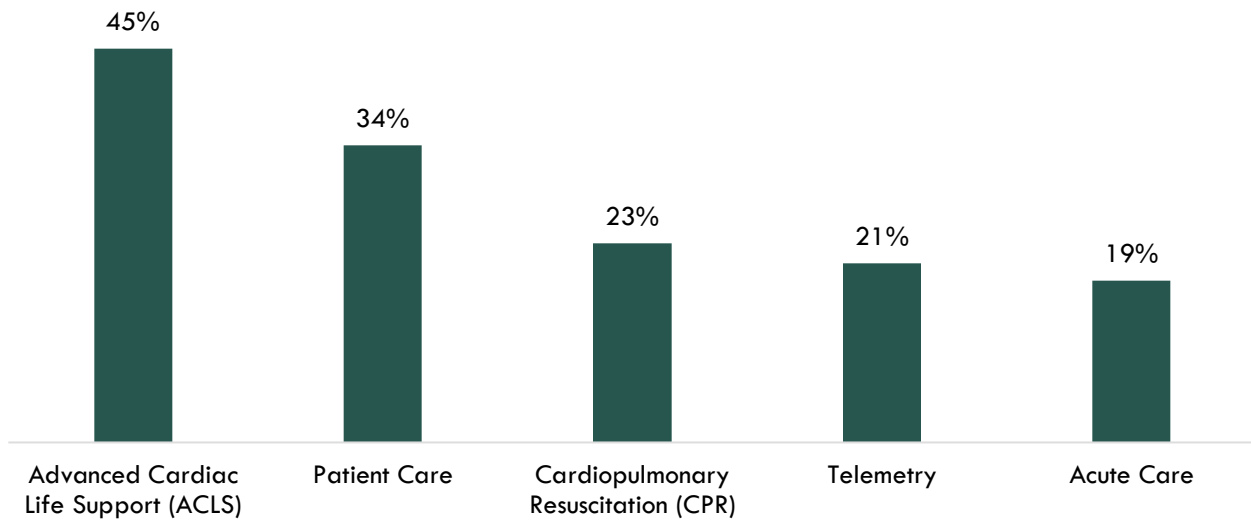
OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
Registered Nurses	\$46.48	\$48.79
Licensed Practical and Licensed Vocational Nurses	\$22.54	\$27.87
Phlebotomists	\$22.01	\$22.58
Dental Assistants	\$17.26	\$21.43
Pharmacy Technicians	\$16.86	\$21.10
Massage Therapists	\$16.66	\$18.49
Social and Human Service Assistants	\$16.34	\$17.68
Medical Secretaries and Administrative Assistants	\$14.36	\$17.32
Medical Assistants	\$14.36	\$17.12
Nursing Assistants	\$14.19	\$16.87
Home Health and Personal Care Aides	\$14.30	\$14.30

**Exhibit 61. Health care educational attainment**

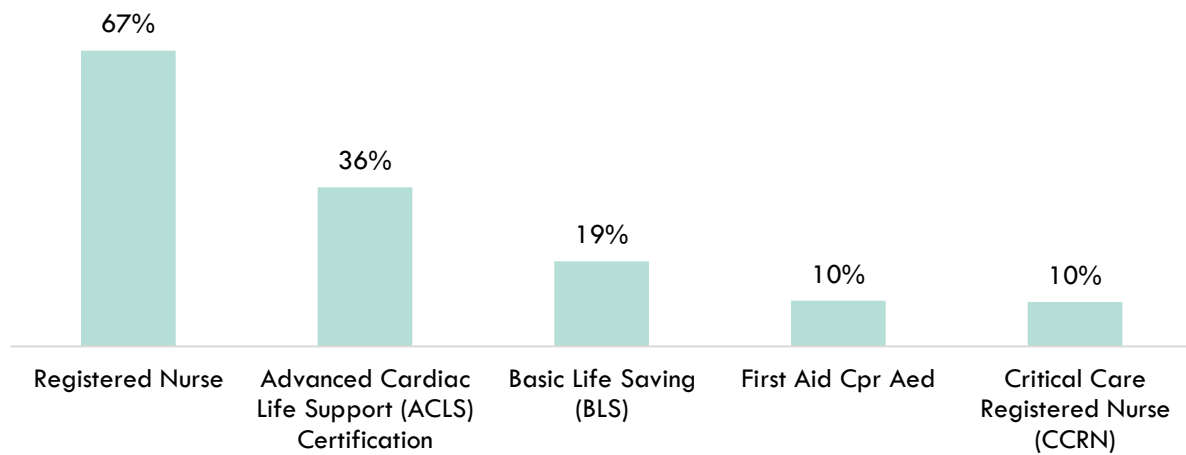
OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
Home Health and Personal Care Aides	High school diploma or equivalent	None	Short-term	34.9%
Medical Assistants	Postsecondary nondegree award	None	None	63.4%
Registered Nurses	Bachelor's degree	None	None	33.3%
Medical Secretaries and Administrative Assistants	High school diploma or equivalent	None	Moderate-term	53.6%
Nursing Assistants	Postsecondary nondegree award	None	None	44.7%
Social and Human Service Assistants	High school diploma or equivalent	None	Short-term	34.4%
Dental Assistants	Postsecondary nondegree award	None	None	55.9%
Licensed Practical and Licensed Vocational Nurses	Postsecondary nondegree award	None	None	73.3%
Pharmacy Technicians	High school diploma or equivalent	None	Moderate-term	53.7%
Phlebotomists	Postsecondary nondegree award	None	None	59.7%
Massage Therapists	Postsecondary nondegree award	None	None	50.1%



**Exhibit 62. Top specialized skills in job postings for health care (n = 897)**



**Exhibit 63. Top certifications in job postings for health care (n = 1,153)**



**Exhibit 64. Health care postsecondary supply**

TOP/ CIP Code- Title	College	Associate Degree	Associate for Transfer Degree	Award < 1 Academic Year	Certificate 16 < 30 Semester Units	Certificate 18 < 30 Semester Units	Certificate 30 < 60 Semester Units	Certificate 6 < 18 Semester Units	Certificate 60+ Semester Units	Credit Award, < 6 Semester Units	Subtotal
051420 - Medical Office Technology	Merced	16			8		13				37
122500 - Radiologic Technology	Merced	16							15		31
122700 - Diagnostic Medical Sonography	Merced						5				5
123010 - Registered Nursing	Merced	56									56
123020 - Licensed Vocational Nursing	Merced	21					23				44
123030 - Certified Nurse Assistant	Merced									62	62
125000 - Emergency Medical Services	Merced							28			28
130600 - Nutrition, Foods, and Culinary Arts	Merced		2								2
130620 - Dietetic Services and Management	Merced				2	2		0			4
130630 - Culinary Arts	Merced	5			2	4					11
210400 - Human Services	Merced	8					2				10
210440 - Alcohol and Controlled Substances	Merced	1					1				2
51.0601 - Dental Assisting/Assistant	Milan Institute-Merced			22							22
51.0716 - Medical Administrative/Executive Assistant and Medical Secretary	Milan Institute-Merced			27							27
51.0801 - Medical/Clinical Assistant	Milan Institute-Merced			88							88
<b>TOTAL</b>		<b>124</b>	<b>2</b>	<b>137</b>	<b>12</b>	<b>6</b>	<b>44</b>	<b>28</b>	<b>15</b>	<b>62</b>	<b>428</b>

**Exhibit 65. Health care annual demand and supply**



# ICT/DIGITAL MEDIA

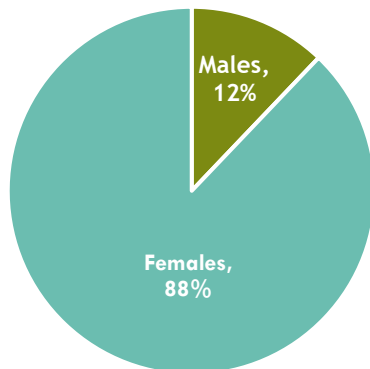
## Summary

- **Gender & race/ethnicity:** Comprising 12% of the workforce, men are underrepresented in this sector. Analysis shows very slight underrepresentation of White workers (Exhibits 66 and 67).
- **Employment and projected demand:** The largest middle-skill occupation is office clerks, general, has 144 annual openings (Exhibit 68).
- **Wages:** The highest paid occupation is office clerks, general, \$17.47/hour median earnings (Exhibit 69).
- **Specialized skills:** The top skill is administrative support, and the top certification is a Cdl Class B (Exhibits 72 and 72).

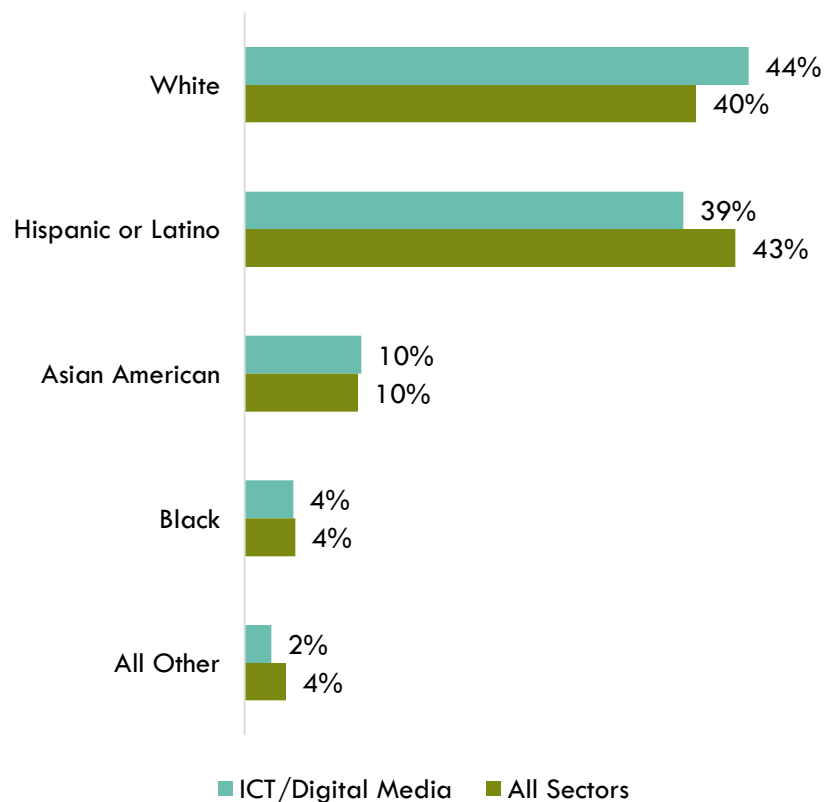
## Top Job Titles

- **Administrative Assistant**
- **Help Desk Specialist- Home**
- **Office Assistant**

**Exhibit 66. Gender composition of the top occupations in the ICT/digital media workforce**



**Exhibit 67. Race/ethnicity composition of the top occupations in the ICT/digital media workforce**



**Exhibit 68. ICT/digital media employment and occupational projections**

OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Office Clerks, General	1,175	1,203	28	2%	144
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	826	816	(10)	(1%)	89
Executive Secretaries and Executive Administrative Assistants	161	148	(13)	(8%)	17
Computer User Support Specialists	123	126	3	2%	10

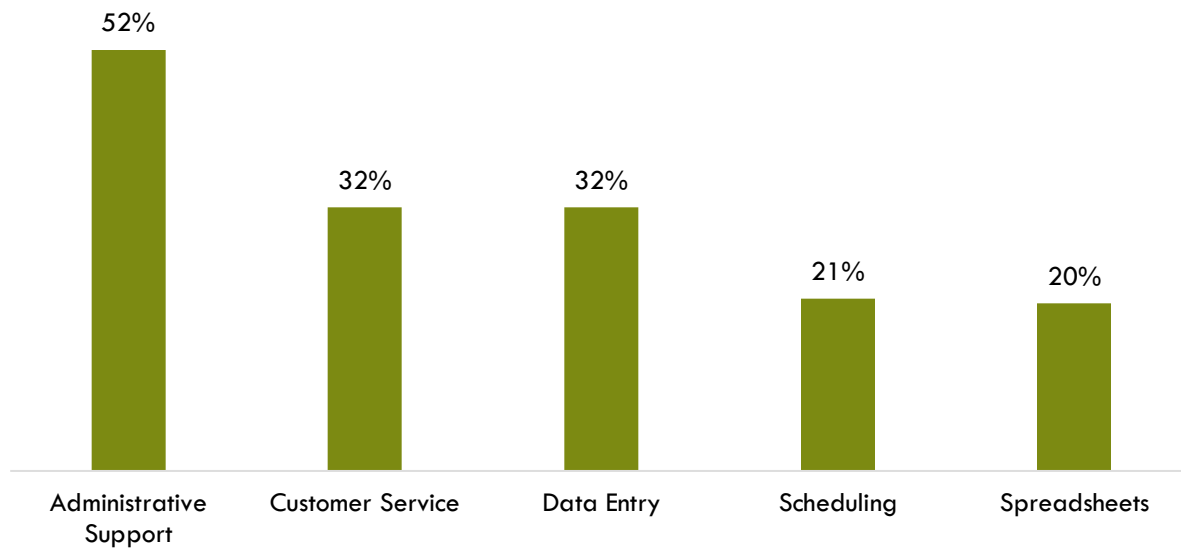
**Exhibit 69. ICT/digital media employment wages**

OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
Office Clerks, General	\$14.32	\$17.47
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$16.95	\$21.22
Executive Secretaries and Executive Administrative Assistants	\$22.10	\$28.27
Computer User Support Specialists	\$18.19	\$22.65

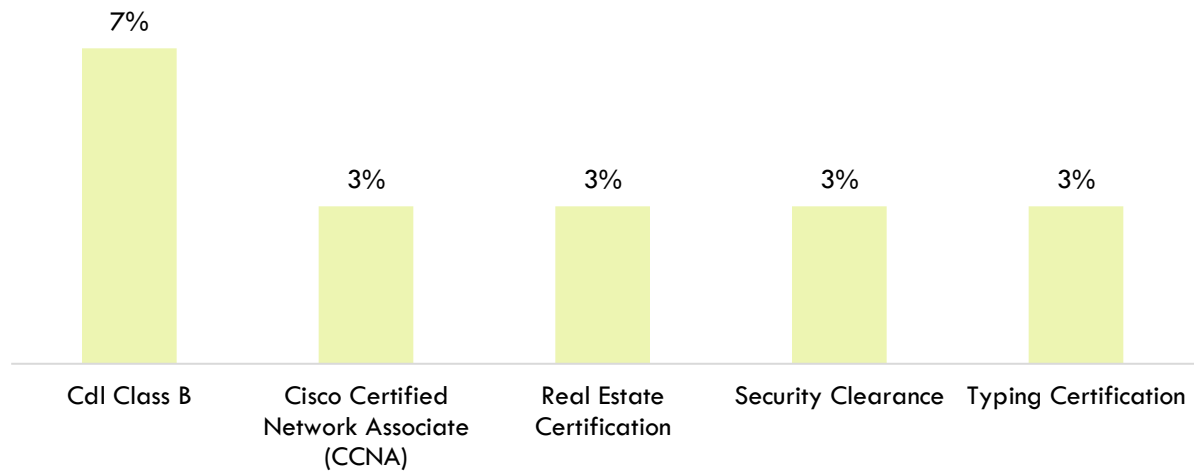
**Exhibit 70. ICT/digital media educational attainment**

OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
Office Clerks, General	High school diploma or equivalent	None	Short-term	45.2%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	High school diploma or equivalent	None	Short-term	45.9%
Executive Secretaries and Executive Administrative Assistants	High school diploma or equivalent	Less than 5 years	None	41.0%
Computer User Support Specialists	Some college, no degree	None	None	39.2%

**Exhibit 71. Top specialized skills in job postings for ICT/digital media (n = 161)**



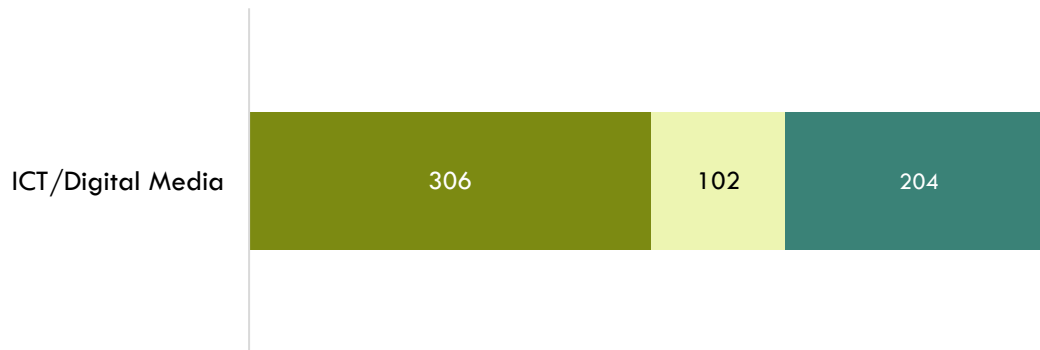
**Exhibit 72. Top certifications in job postings for ICT/digital media (n = 29)**



**Exhibit 73. ICT/digital media postsecondary supply**

TOP/ CIP Code- Title	College	Associate Degree	Certificate 30 < 60 Semester Units	Certificate 6 < 18 Semester Units	Subtotal
<b>051400 - Office Technology/Office Computer Applications</b>	Merced	22	36	20	78
<b>061400 - Digital Media</b>	Merced	0			0
<b>070200 - Computer Information Systems</b>	Merced	2			2
<b>093410 - Computer Electronics</b>	Merced	7	14		22
<b>093420 - Industrial Electronics</b>	Merced	0			0
<b>TOTAL</b>		<b>32</b>	<b>50</b>	<b>20</b>	<b>102</b>

**Exhibit 74. ICT/digital media annual demand and supply**



# PUBLIC SAFETY

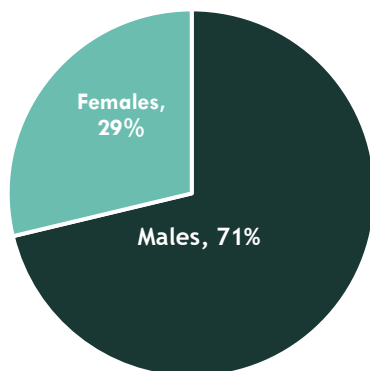
## Summary

- **Gender & race/ethnicity:** Comprising 29% of the workforce, women are underrepresented in this sector. Analysis shows underrepresentation of Hispanic or Latino workers and overrepresentation of Black and White workers (Exhibits 75 and 76).
- **Employment and projected demand:** The largest middle-skill occupation is correctional officers and jailers, has 27 annual openings (Exhibit 77).
- **Wages:** The highest paid occupation is correctional officers and jailers, \$28.50/hour median earnings (Exhibit 78).
- **Specialized skills:** The top skill is data entry, and the top certification is basic post certificate (Exhibits 80 and 81).

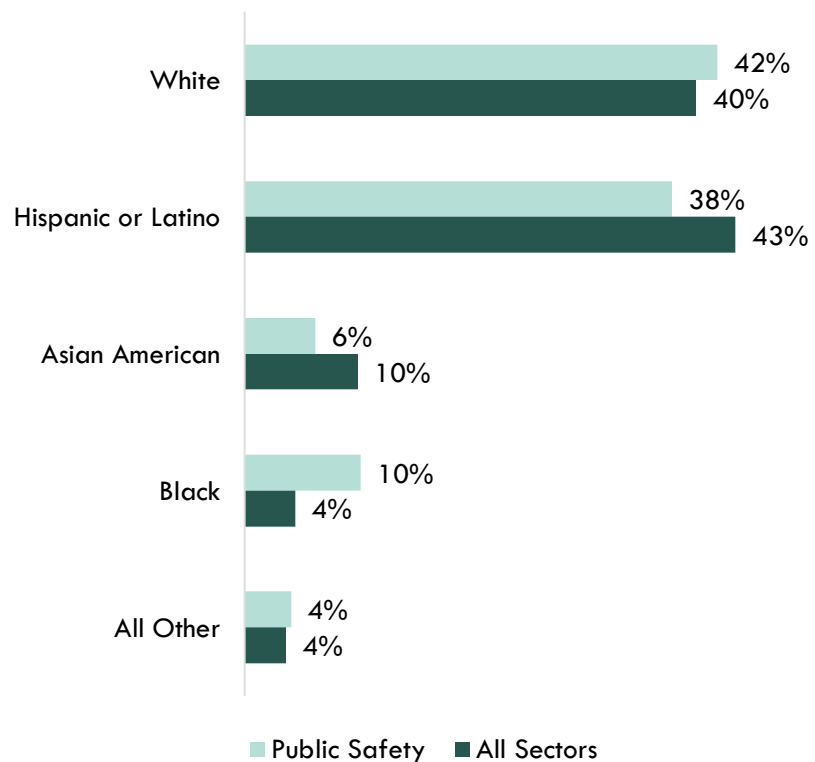
## Top Job Titles

- Deputy Sheriff/Coroner I/II
- Police Officer
- Police Officer Trainee

**Exhibit 75. Gender composition of the top occupations in the public safety workforce**



**Exhibit 76. Race/ethnicity composition of the top occupations in the public safety workforce**



**Exhibit 77. Public safety employment and occupational projections**

OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
Correctional Officers and Jailers	303	289	(14)	(5%)	27
Police and Sheriff's Patrol Officers	310	322	12	4%	27
Firefighters	143	150	7	5%	12
Public Safety Telecommunicators	100	105	5	5%	10

**Exhibit 78. Public safety wages**

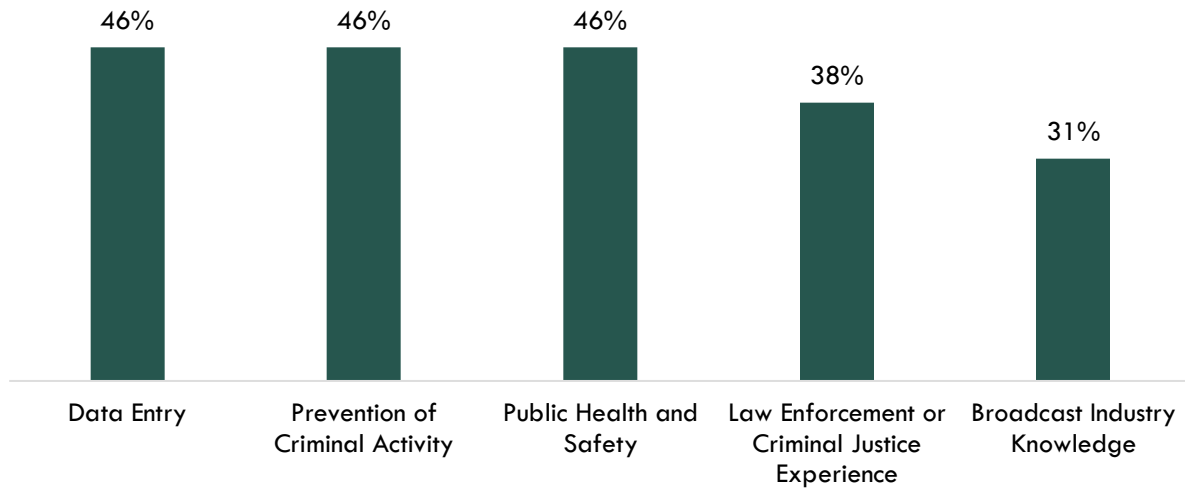
OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
Police and Sheriff's Patrol Officers	\$31.45	\$37.75
Firefighters	\$29.12	\$33.49
Correctional Officers and Jailers	\$22.40	\$28.50
Public Safety Telecommunicators	\$22.38	\$22.99

**Exhibit 79. Public safety educational attainment**

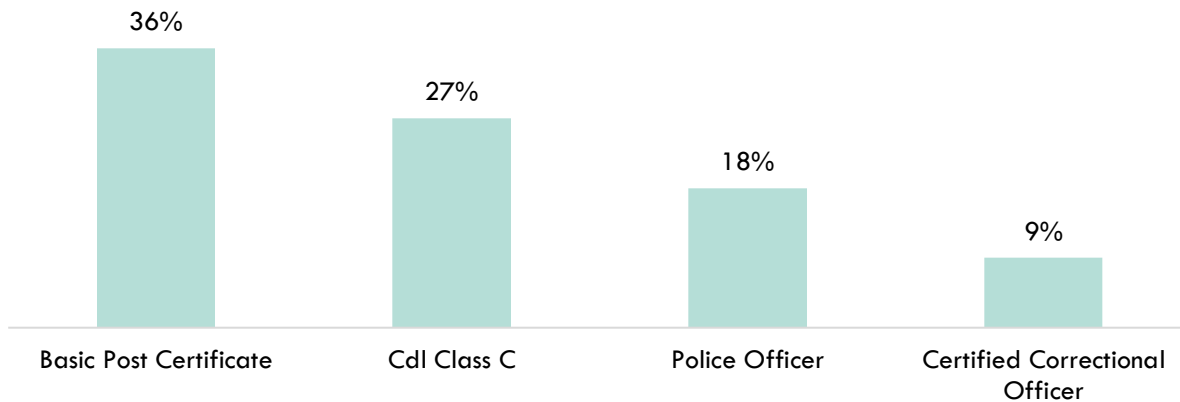
OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The- Job Training	CPS
Correctional Officers and Jailers	High school diploma or equivalent	None	Moderate-term	49.3%
Police and Sheriff's Patrol Officers	High school diploma or equivalent	None	Moderate-term	46.4%
Firefighters	Postsecondary nondegree award	None	Long-term	59.4%
Public Safety Telecommunicators	High school diploma or equivalent	None	Moderate-term	54.0%



**Exhibit 80. Top specialized skills in job postings for public safety (n = 13)**

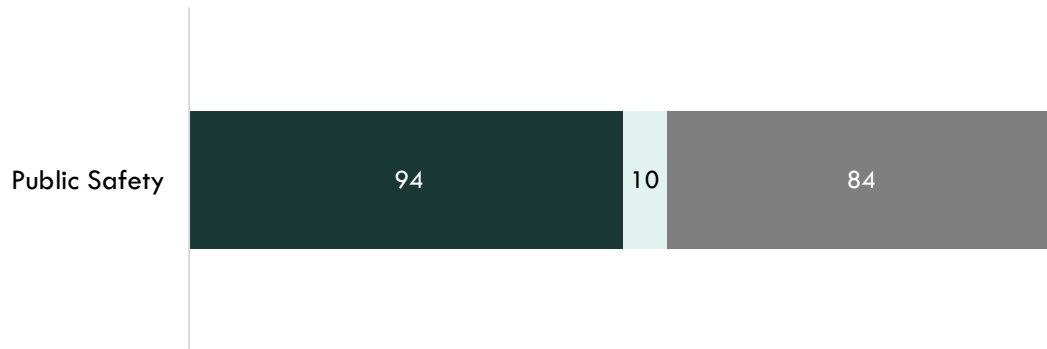


**Exhibit 81. Top certifications in job postings for public safety (n = 11)**



**Exhibit 82. Public safety postsecondary supply**

TOP/ CIP Code- Title	College	Associate Degree	Associate for Transfer Degree	Certificate 30 < 60 Semester Units	Subtotal
210510 - Corrections	Merced	0			0
213300 - Fire Technology	Merced	7		2	9
<b>TOTAL</b>		<b>8</b>	<b>0</b>	<b>2</b>	<b>10</b>

**Exhibit 83. Public safety annual demand and supply**

# RETAIL, HOSPITALITY AND TOURISM

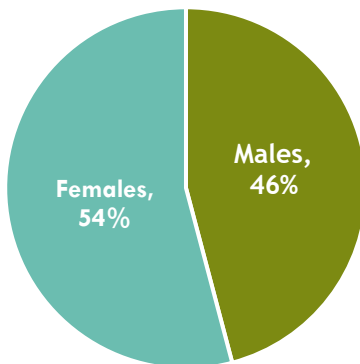
## Summary

- **Gender & race/ethnicity:** Comprising 46% of the workforce, men are slightly underrepresented in this sector. Analysis shows underrepresentation of White workers and overrepresentation of Asian American workers (Exhibits 84 and 85).
- **Employment and projected demand:** The largest middle-skill occupation is first-line supervisors of food preparation and serving workers, has 117 annual openings (Exhibit 86).
- **Wages:** The highest paid occupation is first-line supervisors of food preparation and serving workers, \$16.92/hour median earnings (Exhibit 87).
- **Specialized skills:** The top skill is retail industry knowledge, and the top certification is licensed barber (Exhibits 89 and 90).

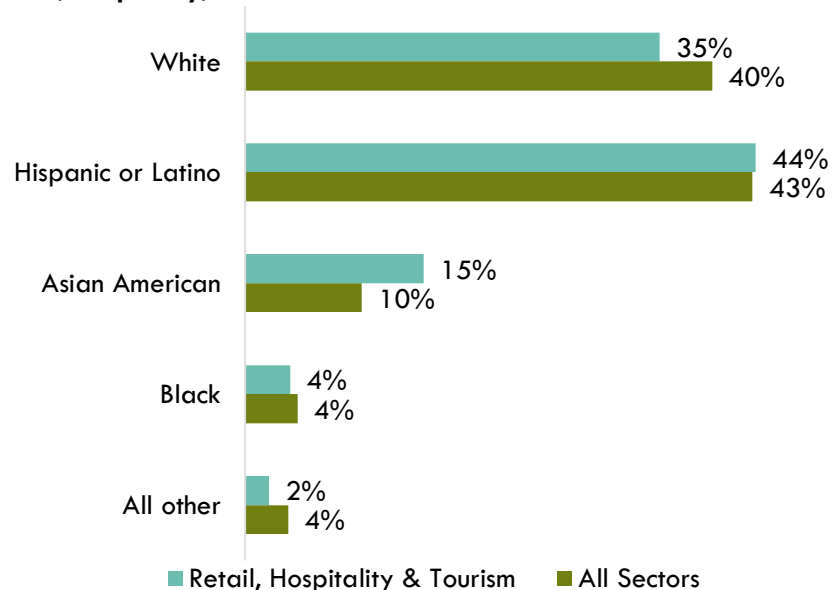
## Top Job Titles

- Assistant Manager
- General Manager
- Assistant Store Manager

**Exhibit 58. Gender composition of the top occupations in the retail, hospitality, and tourism workforce**



**Exhibit 59. Race/ethnicity composition of the top occupations in the retail, hospitality, and tourism workforce**



**Exhibit 86. Retail, hospitality and tourism employment and occupational projections**

OCCUPATION	2021 JOBS	2026 JOBS	5-YEAR CHANGE	5-YEAR % CHANGE	ANNUAL OPENINGS
First-Line Supervisors of Food Preparation and Serving Workers	597	707	109	18%	117
First-Line Supervisors of Retail Sales Workers	793	829	36	5%	94
Cooks, Restaurant	339	420	81	24%	70
Hairdressers, Hairstylists, and Cosmetologists	348	366	19	5%	43
Food Service Managers	243	265	22	9%	33
Chefs and Head Cooks	93	103	10	11%	14
Self-Enrichment Teachers	94	101	7	8%	12
First-Line Supervisors of Housekeeping and Janitorial Workers	78	87	9	12%	11
Manicurists and Pedicurists	86	94	7	8%	11
Cooks, All Other	65	67	2	3%	10
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	92	92	0	0%	10

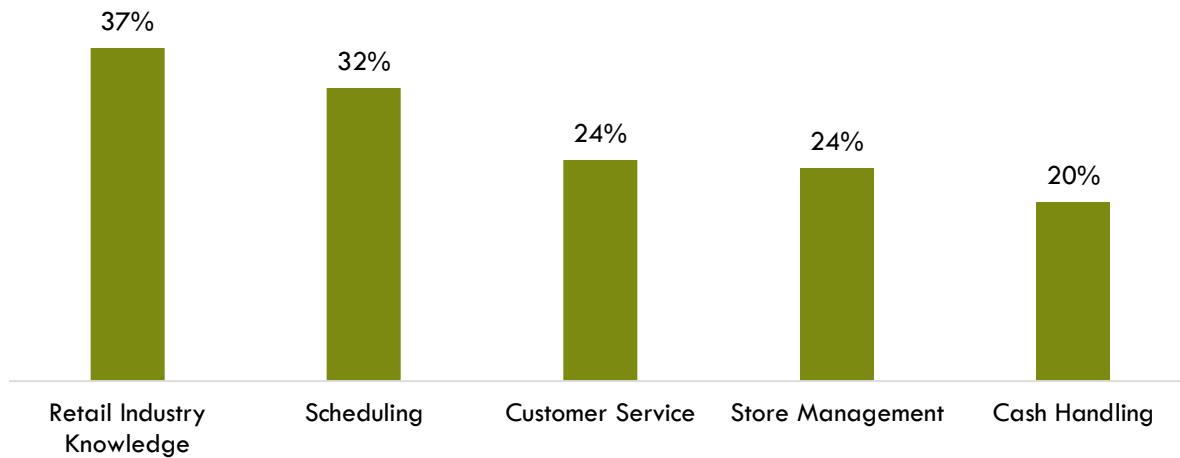
**Exhibit 87. Retail, hospitality and tourism employment wages**

OCCUPATION	25TH PERCENTILE HOURLY WAGES	MEDIAN HOURLY
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$15.09	\$23.29
Self-Enrichment Teachers	\$15.59	\$22.50
Chefs and Head Cooks	\$16.02	\$21.53
Food Service Managers	\$17.02	\$21.25
First-Line Supervisors of Housekeeping and Janitorial Workers	\$16.90	\$21.08
Cooks, All Other	\$18.03	\$19.35
First-Line Supervisors of Retail Sales Workers	\$15.69	\$17.94
First-Line Supervisors of Food Preparation and Serving Workers	\$14.59	\$16.92
Cooks, Restaurant	\$14.01	\$16.51
Hairdressers, Hairstylists, and Cosmetologists	\$11.62	\$14.99
Manicurists and Pedicurists	\$13.43	\$14.37

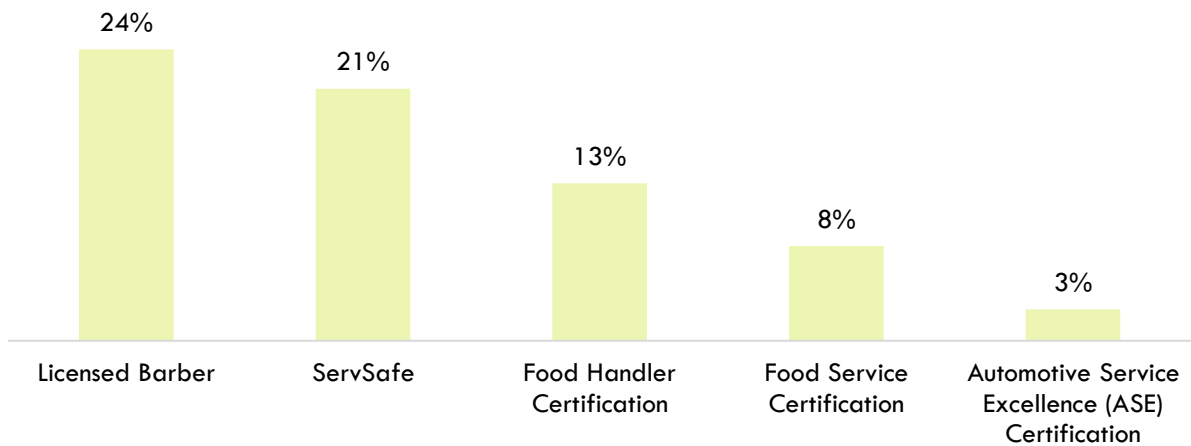
**Exhibit 88. Retail, hospitality and tourism educational attainment**

OCCUPATION	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	CPS
First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	Less than 5 years	None	36.7%
First-Line Supervisors of Retail Sales Workers	High school diploma or equivalent	Less than 5 years	None	38.8%
Cooks, Restaurant	No formal educational credential	Less than 5 years	Moderate-term	24.3%
Hairdressers, Hairstylists, and Cosmetologists	Postsecondary nondegree award	None	None	43.0%
Food Service Managers	High school diploma or equivalent	Less than 5 years	None	35.8%
Chefs and Head Cooks	High school diploma or equivalent	5 years or more	None	35.8%
Self-Enrichment Teachers	High school diploma or equivalent	Less than 5 years	None	25.4%
First-Line Supervisors of Housekeeping and Janitorial Workers	High school diploma or equivalent	Less than 5 years	None	31.0%
Manicurists and Pedicurists	Postsecondary nondegree award	None	None	23.5%
Cooks, All Other	No formal educational credential	None	Moderate-term	24.3%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	High school diploma or equivalent	Less than 5 years	None	31.0%

**Exhibit 89. Top specialized skills in job postings for retail, hospitality and tourism (n = 429)**



**Exhibit 90. Top certifications in job postings for retail, hospitality and tourism (n = 156)**

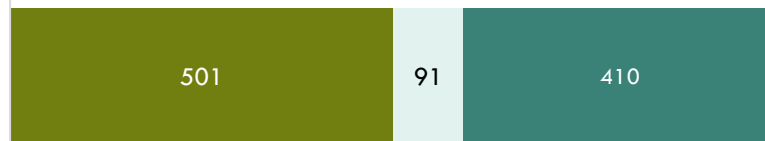


### Exhibit 91. Retail, hospitality and tourism postsecondary supply

TOP/ CIP Code- Title	College	Associate Degree	Award < 1 Academic Year	Award 1 < 2 Academic Years	Certificate 16 < 30 Semester Units	Certificate 18 < 30 Semester Units	Subtotal
101100 - Photography	Merced	1					1
101200 - Applied Photography	Merced				0	0	1
12.0401 - Cosmetology/Cosmetologist, General	Milan Institute-Merced			27			27
12.0401 - Cosmetology/Cosmetologist, General	Sierra College of Beauty			31			31
12.0402 - Barbering/Barber	Milan Institute-Merced			7			7
12.0402 - Barbering/Barber	Sierra College of Beauty			11			11
12.0409 - Aesthetician/Esthetician and Skin Care Specialist	Sierra College of Beauty		9				9
12.0410 - Nail Technician/Specialist and Manicurist	Sierra College of Beauty		4				4
<b>TOTAL</b>		<b>1</b>	<b>13</b>	<b>76</b>	<b>0</b>	<b>0</b>	<b>91</b>

### Exhibit 92. Retail, hospitality and tourism annual demand and supply

Retail, Hospitality & Tourism



# APPENDIX A: SUPPLY FOR ADMINISTRATION OF JUSTICE

TOP code and title: 2105.00 – Administration of Justice applies to both the business and public safety sector. The occupations with 10 or more annual openings for public safety sector do not fully cover the Administration of Justice TOP Code. Administration of Justice programs serve to prepare students for a variety of Community College level occupations not included in this report. These programs are also a conduit for transfer students intending to pursue higher-level occupations in the legal professions. Finally, entrance into all of the listed occupations requires successful completion of an academy.

TOP/ CIP Code- Title	College	Associate Degree	Associate for Transfer Degree	Certificate 30 < 60 Semester Units	Subtotal
<b>210500 - Administration of Justice</b>	Merced	24	78	3	104
<b>TOTAL</b>		<b>24</b>	<b>78</b>	<b>3</b>	<b>104</b>



# APPENDIX B: METHODOLOGY AND DATA SOURCES

## Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor's Office Management Information Systems Data Mart, and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Labor Market Information/Population Estimates and Projections/Educational Attainment	Economic Modeling Specialists, Intl. (LIGHTCAST). LIGHTCAST occupational employment data are based on final LIGHTCAST industry data and final LIGHTCAST staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non- QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level LIGHTCAST earnings by industry: <a href="http://economicmodeling.com">economicmodeling.com</a> .
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: <a href="https://www.bls.gov/emp/tables/educational-attainment.htm">https://www.bls.gov/emp/tables/educational-attainment.htm</a> .
Labor Force, Employment and Unemployment Estimates	California Employment Development Department, Labor Market Information Division: <a href="http://labormarketinfo.edd.ca.gov">labormarketinfo.edd.ca.gov</a> .
Job Posting and Skills Data	Burning Glass: <a href="http://burning-glass.com/">burning-glass.com/</a> .
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 occupations as well as information on skills, abilities, knowledge, work activities and interests associated with specific occupations: <a href="http://onetonline.org">onetonline.org</a> .

## Key Terms and Concepts

**Annual Job Openings:** Annual openings are calculated by dividing the number of years in the projection period by total job openings.

**Education Attainment Level:** The highest education attainment level of workers age 25 years or older.

**Employment Estimate:** The total number of workers currently employed.

**Employment Projections:** Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (LIGHTCAST) formula that includes historical employment and economic indicators along with national, state, and local trends.

**Living Wage:** The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

**Occupation:** An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

**Percent Change:** Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

**Replacements:** Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

**Total Job Openings (New + Replacements):** Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs, or retain the current employment level, number of openings will equal replacements.

**Typical Education Requirement:** represents the typical education level most workers need to enter an occupation.

**Typical On-The-Job Training:** indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.