LOS ANGELES COUNTY SECTOR PROFILES SUMMARY

Los Angeles County Sector Analysis Project   December 2021

Introduction

In 2021, the Los Angeles County Center of Excellence compiled 11 sector profiles analyzing labor market trends in the county and how they correspond to existing postsecondary education and training programs. The profiles were created to support collaborative planning and career education (CE) program investments by the county's 19 community colleges.[1]

The research team sifted through hundreds of middle-skill jobs—jobs that typically require education or training beyond a high school diploma but less than a bachelor's degree—and identified dozens of promising occupations for students that are well paid and in demand in the county. These occupations fall within 11 sectors designated by the California Community Colleges Chancellor's Office that are critical to the economic vitality of the county. This summary presents key findings from those 11 sector profiles.

In each sector profile:

1 Current and projected workforce demand

2 Occupations that are well paid and in demand

3 Job posting findings

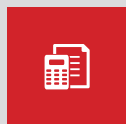**4** Program and training data from area community colleges and other training providers
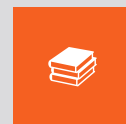
Industry Sectors Studied

Advanced Manufacturing

Advanced Transportation & Logistics

Business & Entrepreneurship

Education & Human Development
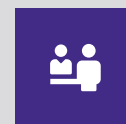
Energy, Construction & Utilities

Global Trade

Health

ICT/ Digital Media
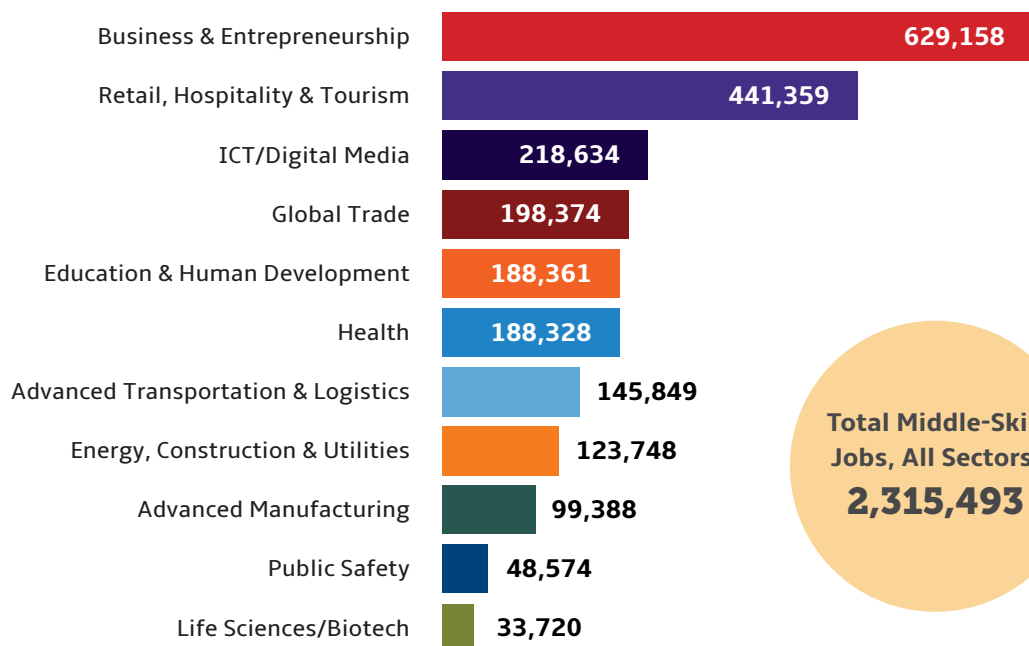
Life Sciences/ Biotech

Public Safety

Retail, Hospitality & Tourism

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[1] **Impact of the COVID-19 pandemic:** This profile relies largely on 2019 employment and education data preceding the pandemic. The exception is job posting data from 2020. Due to severe economic impacts from the pandemic, job posting data should not be considered an accurate depiction of employer demand; however, the frequency of certain data points can provide insights into the types of workers and skill sets that employers are seeking. Annual job openings are derived from the labor market analytics firm Emsi, whose 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. At this time, it is not possible to quantify the economic impact of COVID-19 on projections of occupational employment. A complete list of data sources is provided on the last page of this profile.

Sector Employment Analysis

Through labor market analysis, segments of the economy that are expanding or contracting can be tracked, and community colleges can adjust programs and course offerings accordingly to meet employer demand.

Exhibit 1. Total employment by sector, 2019[2]

Sector	Employment
Business & Entrepreneurship	629,158
Retail, Hospitality & Tourism	441,359
ICT/Digital Media	218,634
Global Trade	198,374
Education & Human Development	188,361
Health	188,328
Advanced Transportation & Logistics	145,849
Energy, Construction & Utilities	123,748
Advanced Manufacturing	99,388
Public Safety	48,574
Life Sciences/Biotech	33,720

Total Middle-Skill Jobs, All Sectors: 2,315,493

Key Finding

With nearly 630,000 middle-skill jobs, business & entrepreneurship sector employment is greater than all other the sectors.
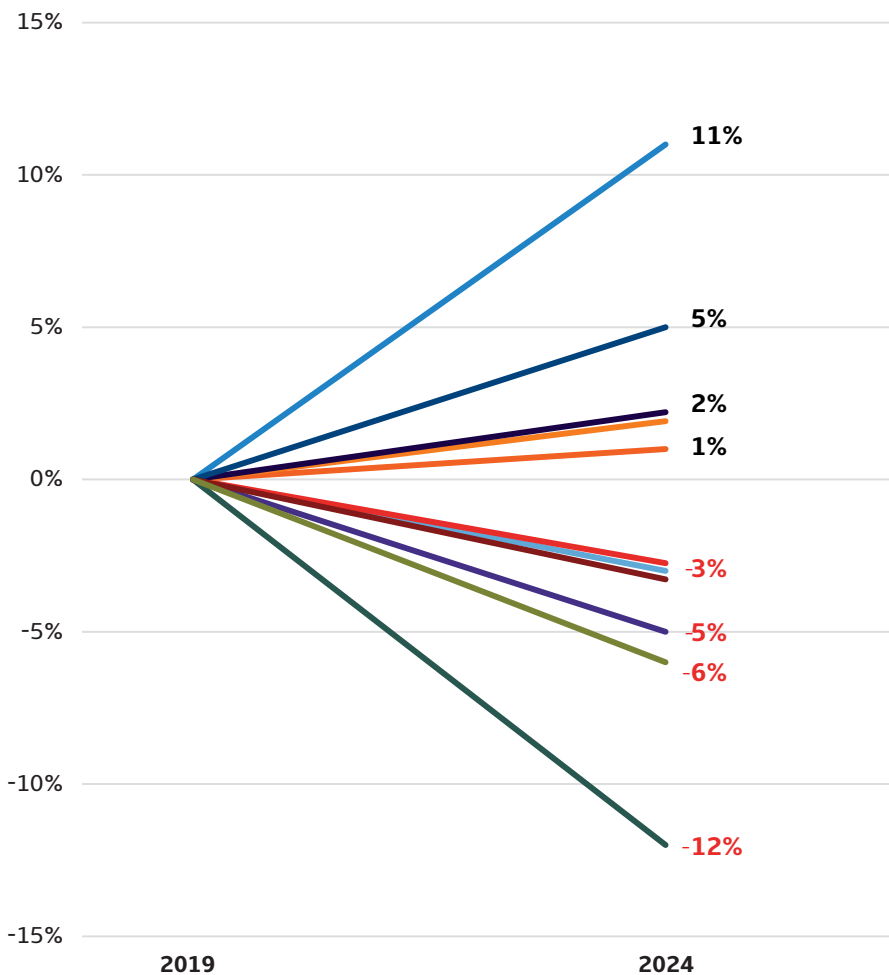

[2] Please note: Sector employment totals may be slightly inflated because a small percentage of occupations occur in more than one sector, resulting in a double count. However, it is also important to note that co-occurring occupations also present an opportunity for cross-sector collaborations.

Exhibit 2. Projected percent job growth by sector, 2019-2024

Sector	Percent Job Growth
Health	11%
Public Safety	5%
Energy, Construction & Utilities	2%
ICT/Digital Media	2%
Education & Human Development	1%
Advanced Transportation & Logistics	-3%
Business & Entrepreneurship	-3%
Global Trade	-3%
Retail, Hospitality & Tourism	-5%
Life Sciences/Biotech	-6%
Advanced Manufacturing	-12%

Legend:
- Advanced Transportation & Logistics
- Advanced Manufacturing
- Business & Entrepreneurship
- Education & Human Development
- Energy, Construction & Utilities
- ICT/Digital Media
- Health
- Public Safety
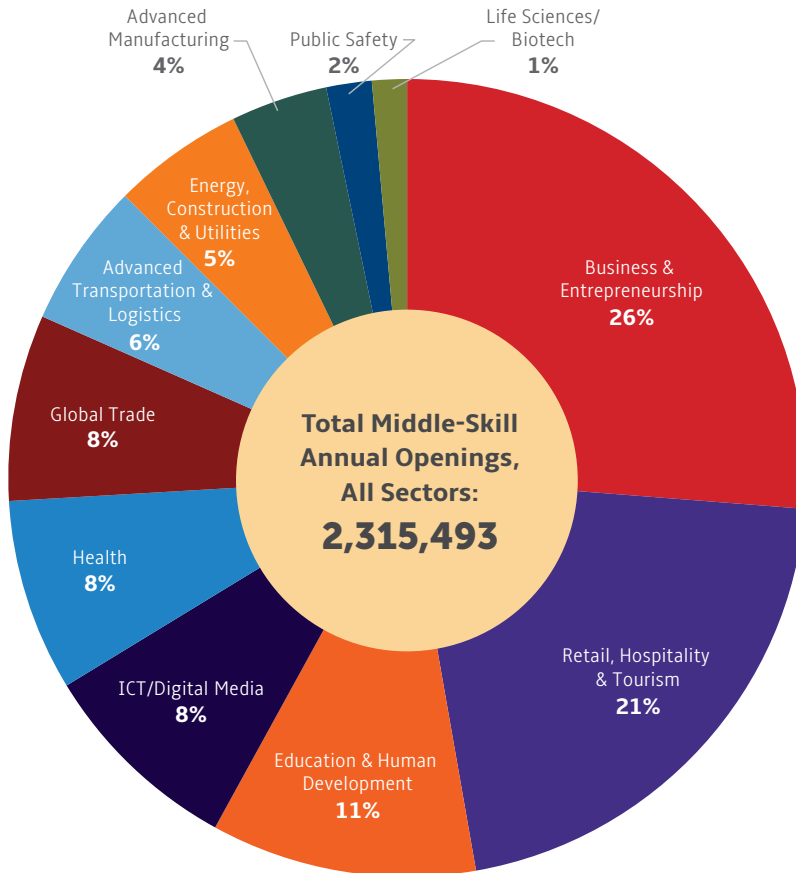- Retail, Hospitality & Tourism
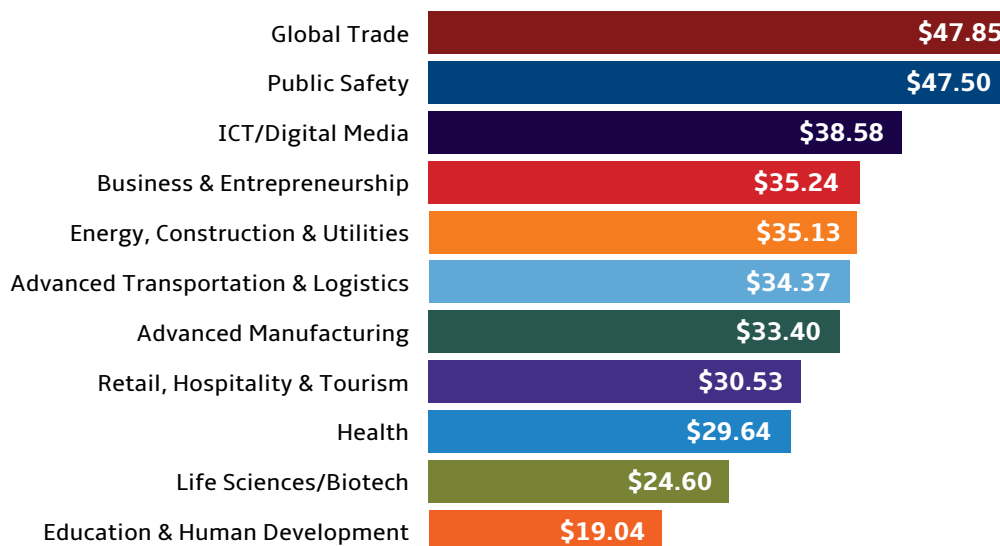- Global Trade
- Life Sciences/Biotech

The business & entrepreneurship sector will offer the greatest number of annual openings, more than 57,600, accounting for nearly a third of all annual openings across the 11 sectors.

Exhibit 3. Percent annual openings by sector

Advanced Manufacturing 4%
Public Safety 2%
Life Sciences/Biotech 1%
Energy, Construction & Utilities 5%
Advanced Transportation & Logistics 6%
Global Trade 8%
Health 8%
ICT/Digital Media 8%
Education & Human Development 11%
Business & Entrepreneurship 26%
Retail, Hospitality & Tourism 21%

Total Middle-Skill Annual Openings, All Sectors: 2,315,493

Sector	Annual Openings
Business & Entrepreneurship	57,625
Retail, Hospitality & Tourism	46,115
Education & Human Development	23,634
ICT/Digital Media	18,207
Health	17,105
Global Trade	16,593
Advanced Transportation & Logistics	12,890
Energy, Construction & Utilities	11,704
Advanced Manufacturing	8,602
Public Safety	4,048
Life Sciences/Biotech	3,107

Exhibit 4. Average hourly earnings by sector

Sector	Average Hourly Earnings
Global Trade	$47.85
Public Safety	$47.50
ICT/Digital Media	$38.58
Business & Entrepreneurship	$35.24
Energy, Construction & Utilities	$35.13
Advanced Transportation & Logistics	$34.37
Advanced Manufacturing	$33.40
Retail, Hospitality & Tourism	$30.53
Health	$29.64
Life Sciences/Biotech	$24.60
Education & Human Development	$19.04

Key Finding

The global trade sector offers the highest average hourly wage, $47.85, while the education & human development sector has the lowest, $19.04.

Occupational Analysis

Understanding which occupations are in demand now, and in the future, and what they pay, is critical for community college planning, career pathway development, and targeted employer partnerships.

Key Finding

- The occupation with the greatest projected demand in the county is registered nurses (more than 6,300 annual openings), followed by bookkeeping, accounting, and auditing clerks, (5,679 annual openings).
- The co-occurrence of inspectors, testers, sorts, samplers, and weighers in life sciences/biotech and advanced manufacturing indicates an opportunity for cross-sector partnerships.

Exhibit 5. Top occupations by number of annual openings

Sector	Occupation	Annual Openings
Health	Registered Nurses* (29-1141)	6,309
Business & Entrepreneurship	Bookkeeping, Accounting, and Auditing Clerks (43-3031)	5,679
Global Trade	General and Operations Managers (11-1021)	5,393
Retail, Hospitality & Tourism	First-Line Supervisors of Office and Administrative Support Workers (43-1011)	4,393
Education & Human Development	Teaching Assistants, Except Postsecondary (25-9045)	4,057
ICT/Digital Media	Software Developers and Software Quality Assurance Analysts and Testers (15-1256)	3,098
Energy, Construction & Utilities	Carpenters (47-2031)	2,840
Advanced Transportation & Logistics	Shipping, Receiving, and Traffic Clerks (43-5071)	2,327
Public Safety	Police and Sheriffs Patrol Officers (33-3051)	2,053
Life Sciences/Biotech	Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	1,647
Advanced Manufacturing	Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)	1,647

* Nationally a bachelor's degree is typically required for registered nursed, but in California, an associate degree is acceptable for entry-level employment.
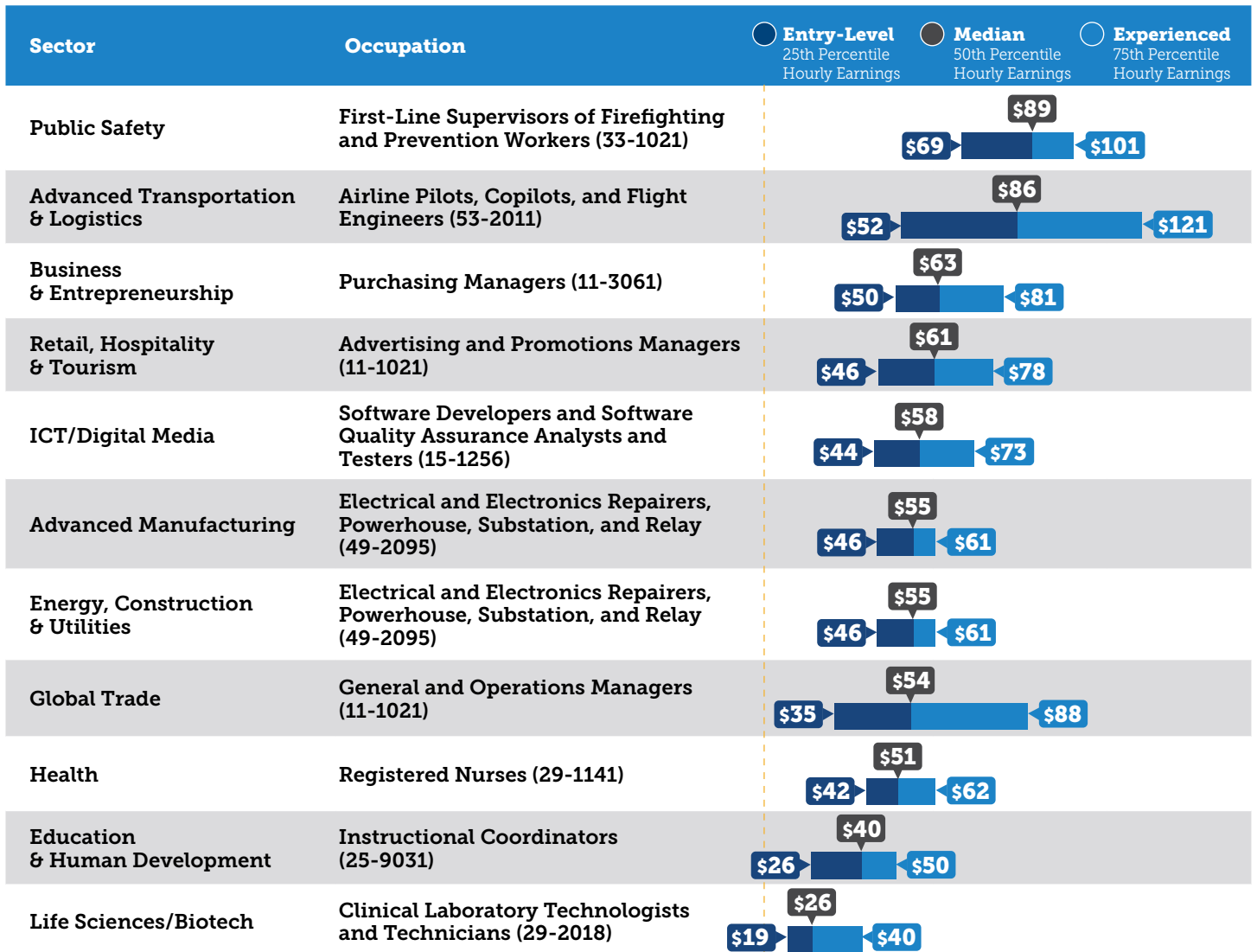
Note: Only middle-skill occupations that pay above the county's living wage of $15.04/hour are included in this table. The same occupation can be employed by more than one sector.

Exhibit 6. Top occupations by highest hourly median wage

Sector	Occupation	Entry-Level 25th Percentile Hourly Earnings	Median 50th Percentile Hourly Earnings	Experienced 75th Percentile Hourly Earnings
Public Safety	First-Line Supervisors of Firefighting and Prevention Workers (33-1021)	$69	$89	$101
Advanced Transportation & Logistics	Airline Pilots, Copilots, and Flight Engineers (53-2011)	$52	$86	$121
Business & Entrepreneurship	Purchasing Managers (11-3061)	$50	$63	$81
Retail, Hospitality & Tourism	Advertising and Promotions Managers (11-1021)	$46	$61	$78
ICT/Digital Media	Software Developers and Software Quality Assurance Analysts and Testers (15-1256)	$44	$58	$73
Advanced Manufacturing	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay (49-2095)	$46	$55	$61
Energy, Construction & Utilities	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay (49-2095)	$46	$55	$61
Global Trade	General and Operations Managers (11-1021)	$35	$54	$88
Health	Registered Nurses (29-1141)	$42	$51	$62
Education & Human Development	Instructional Coordinators (25-9031)	$26	$40	$50
Life Sciences/Biotech	Clinical Laboratory Technologists and Technicians (29-2018)	$19	$26	$40

Note: These are wages for middle-skill occupations, i.e., those requiring less than a bachelor's degree. Some profiles prepared by the LA COE included analysis of occupations that require a bachelor's degree or higher.

– – – – – **$15.04/hour Living Wage**

Job Postings Analysis

Job posting data can provide insights into employer hiring trends, informing how career pathways can be tailored to equip students to enter promising careers.

Exhibit 7. Top employers by number of job postings

Sector	Employer	Job Postings
Health	Anthem Blue Cross	2,560
ICT/Digital Media	Northrop Grumman	2,343
Business & Entrepreneurship	Anthem Blue Cross	1,359
Global Trade	Anthem Blue Cross	1,147
Retail, Hospitality & Tourism	Charter Communications	759
Advanced Transportation & Logistics	Northrop Grumman	393
Advanced Manufacturing	Northrop Grumman	322
Energy, Construction & Utilities	Sears	200
Public Safety	Anthem Blue Cross	193
Education & Human Development	Easterseals Southern California	125
Life Sciences/Biotech	Anthem Blue Cross	72

Note: Job postings data should not be considered a direct measure of employment demand. Employers can post more than one job ad for the same position, use one job posting for multiple openings or for year-round recruitment purposes, or include misleading ads that do not represent actual available positions.

Key Finding

In all but three sectors, Anthem Blue Cross and Northrop Grumman have posted the most job ads seeking to fill middle-skill occupations in the county, indicating an opportunity for cross-sector partnerships.

Exhibit 8. Top job titles by number of job postings

Sector	Job Title	Job Postings
Business & Entrepreneurship	Sales Representative	2,290
Global Trade	Sales Representative	2,229
Retail, Hospitality & Tourism	Sales Representative	2,218
Health	Registered Nurse	1,613
ICT/Digital Media	Data Entry Clerk	1,040
Advanced Transportation & Logistics	Shipping and Receiving Clerk	665
Advanced Manufacturing	Maintenance Technician	360
Energy, Construction & Utilities	Construction Project Manager	327
Education & Human Development	Behavior Interventionist	258
Life Sciences/Biotech	Quality Assurance Specialist	245
Public Safety	Police Officer	47

Key Finding

Job titles that occur the most frequently in job postings include sales representatives, registered nurses, and data entry clerks. Some jobs are shared by more than one sector, as is the case for sales representative, which is the top job title for business & entrepreneurship; global trade; and retail, hospitality & tourism.

Student Demographics Analysis

Understanding trends and patterns in student demographics can help community college faculty and staff address underlying disparities and improve academic outcomes for underrepresented students.

Key Finding

Analysis of the ratio of female to male students shows that female students are overrepresented in three sectors: education & human development; health; and retail, hospitality & tourism. They are underrepresented in a number of sectors, with the largest disparities in advanced transportation & logistics; energy, construction & utilities; and advanced manufacturing.

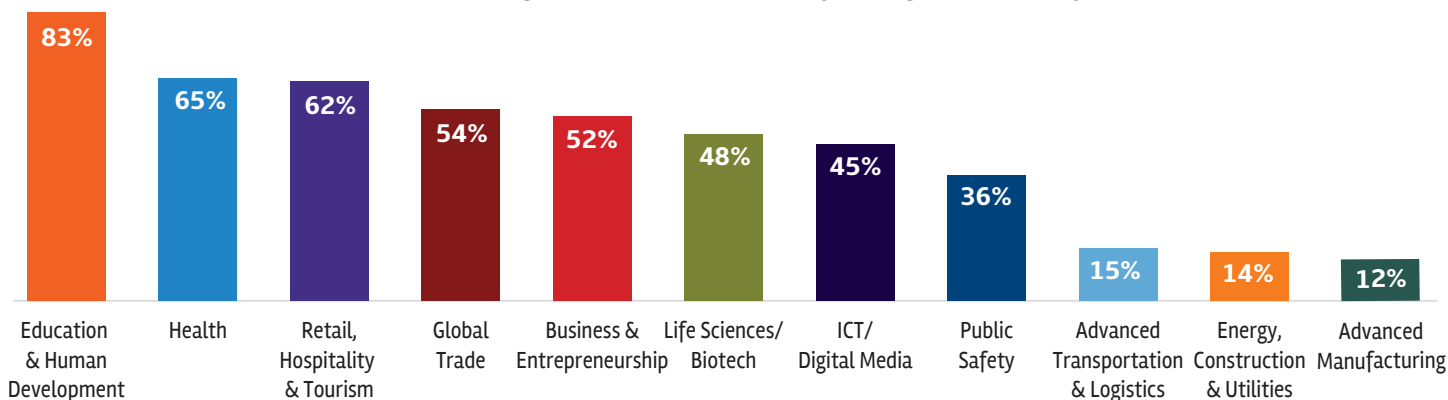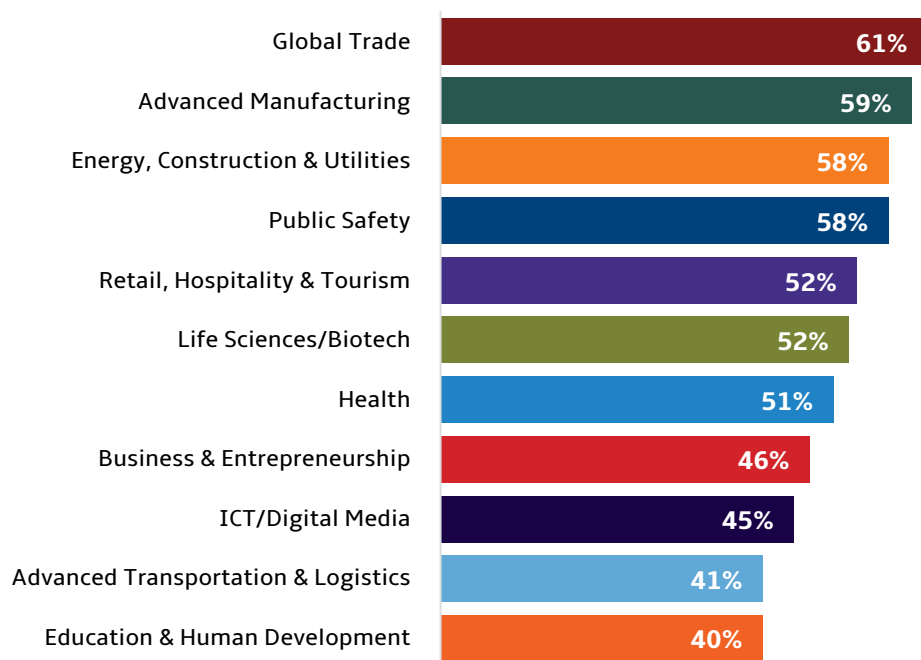Exhibit 9. Percentage of female community college students by sector

Sector	%
Education & Human Development	83%
Health	65%
Retail, Hospitality & Tourism	62%
Global Trade	54%
Business & Entrepreneurship	52%
Life Sciences/Biotech	48%
ICT/Digital Media	45%
Public Safety	36%
Advanced Transportation & Logistics	15%
Energy, Construction & Utilities	14%
Advanced Manufacturing	12%

Exhibit 10. Percentage of community college students above the age of 25 by sector

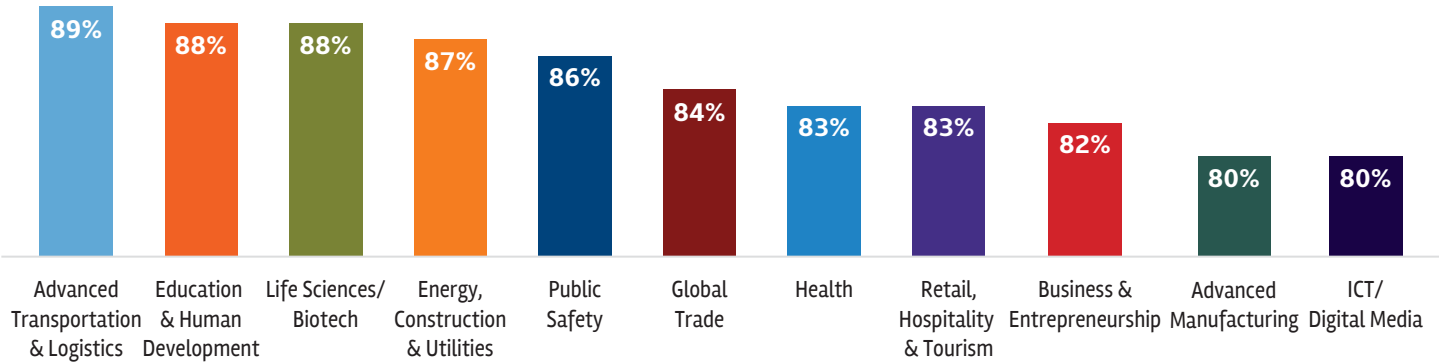| Sector	%
Global Trade	61%
Advanced Manufacturing	59%
Energy, Construction & Utilities	58%
Public Safety	58%
Retail, Hospitality & Tourism	52%
Life Sciences/Biotech	52%
Health	51%
Business & Entrepreneurship	46%
ICT/Digital Media	45%
Advanced Transportation & Logistics	41%
Education & Human Development	40%

Key Finding

Analysis of the percentage of students above age 25 can indicate areas that may appeal to dislocated workers or incumbent workers seeking to retrain or upskill to access opportunities for advancement. About 60% of students in the global trade and advanced manufacturing sectors are over the age of 25.

Exhibit 11. Percentage of minority community college students by sector

Sector	Percentage
Advanced Transportation & Logistics	89%
Education & Human Development	88%
Life Sciences/Biotech	88%
Energy, Construction & Utilities	87%
Public Safety	86%
Global Trade	84%
Health	83%
Retail, Hospitality & Tourism	83%
Business & Entrepreneurship	82%
Advanced Manufacturing	80%
ICT/Digital Media	80%

Postsecondary Education and Training Analysis

Community colleges play an integral role in training students to enter middle-skill jobs. By examining enrollment, how many awards (degrees and certificates) are being earned, and metrics related to student outcomes, programs can be calibrated to have the greatest positive impact.

Key Finding

Community college enrollment is greatest in the ICT/digital media sector even though this sector ranks third in terms of employment and fourth in terms of annual job openings. The global trade sector has the second lowest enrollment of all sectors even though the sector pays the highest annual earnings and ranks fourth highest in terms of employment.

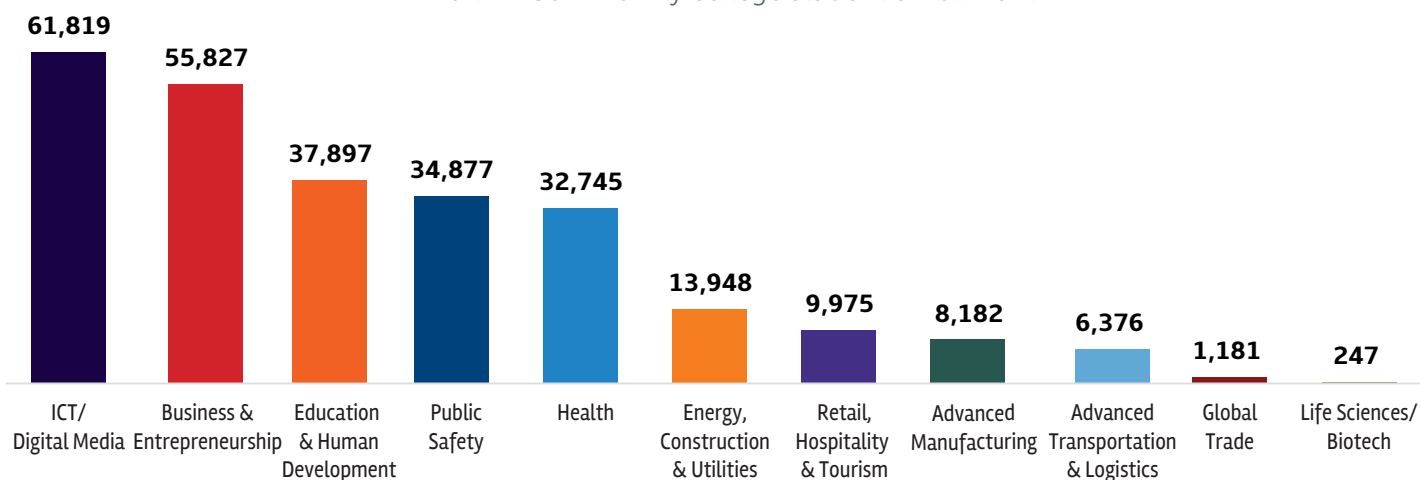Exhibit 12. Community college student enrollment

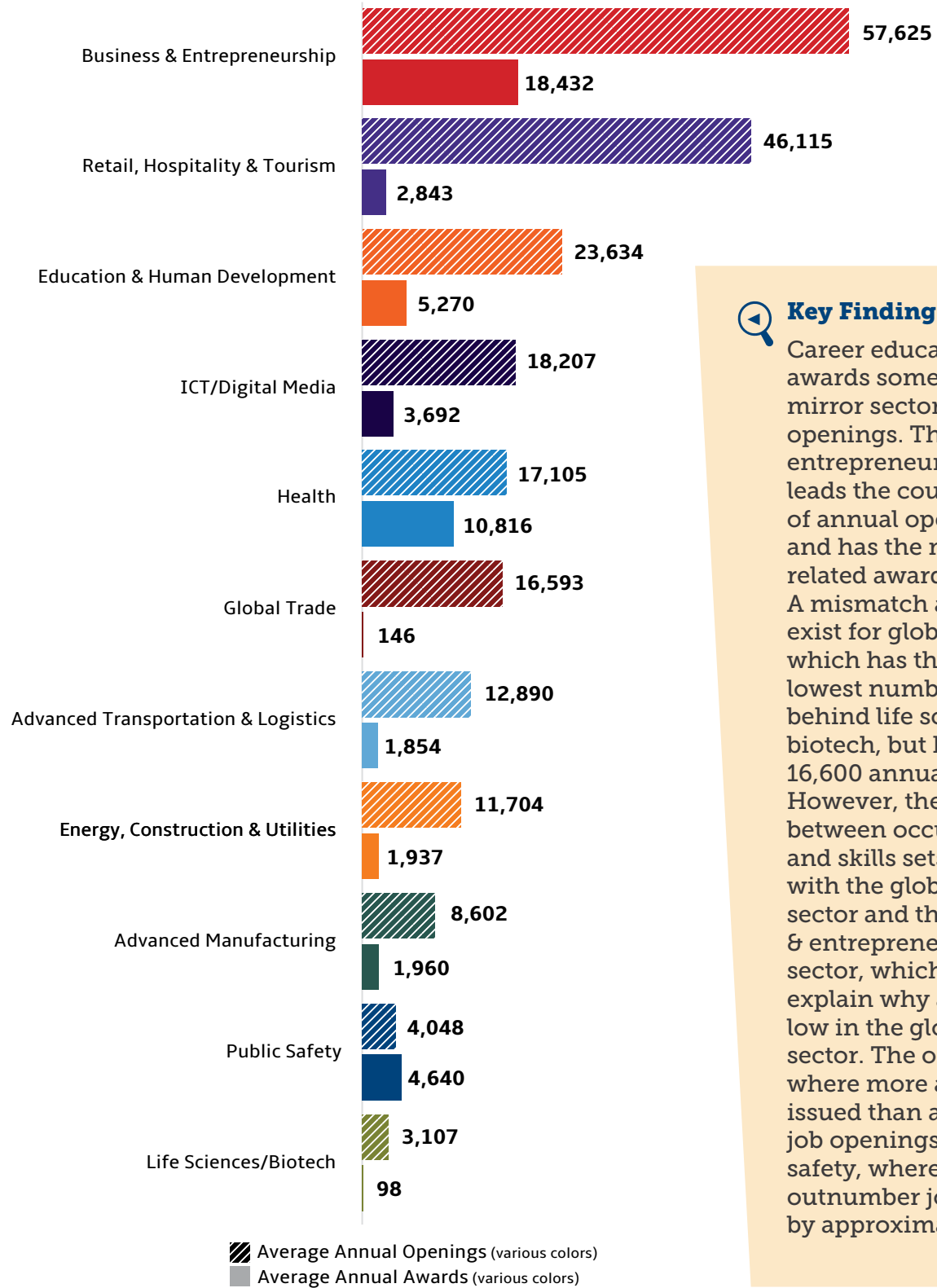| Sector	Enrollment
ICT/Digital Media	61,819
Business & Entrepreneurship	55,827
Education & Human Development	37,897
Public Safety	34,877
Health	32,745
Energy, Construction & Utilities	13,948
Retail, Hospitality & Tourism	9,975
Advanced Manufacturing	8,182
Advanced Transportation & Logistics	6,376
Global Trade	1,181
Life Sciences/Biotech	247

Exhibit 13. Comparison of student awards (degrees and certificates) by sector and sector annual openings in the county[3]

Business & Entrepreneurship
- 57,625 (Average Annual Openings)
- 18,432 (Average Annual Awards)

Retail, Hospitality & Tourism
- 46,115
- 2,843

Education & Human Development
- 23,634
- 5,270

ICT/Digital Media
- 18,207
- 3,692

Health
- 17,105
- 10,816

Global Trade
- 16,593
- 146

Advanced Transportation & Logistics
- 12,890
- 1,854

Energy, Construction & Utilities
- 11,704
- 1,937

Advanced Manufacturing
- 8,602
- 1,960

Public Safety
- 4,048
- 4,640

Life Sciences/Biotech
- 3,107
- 98

Legend:
- Average Annual Openings (various colors)
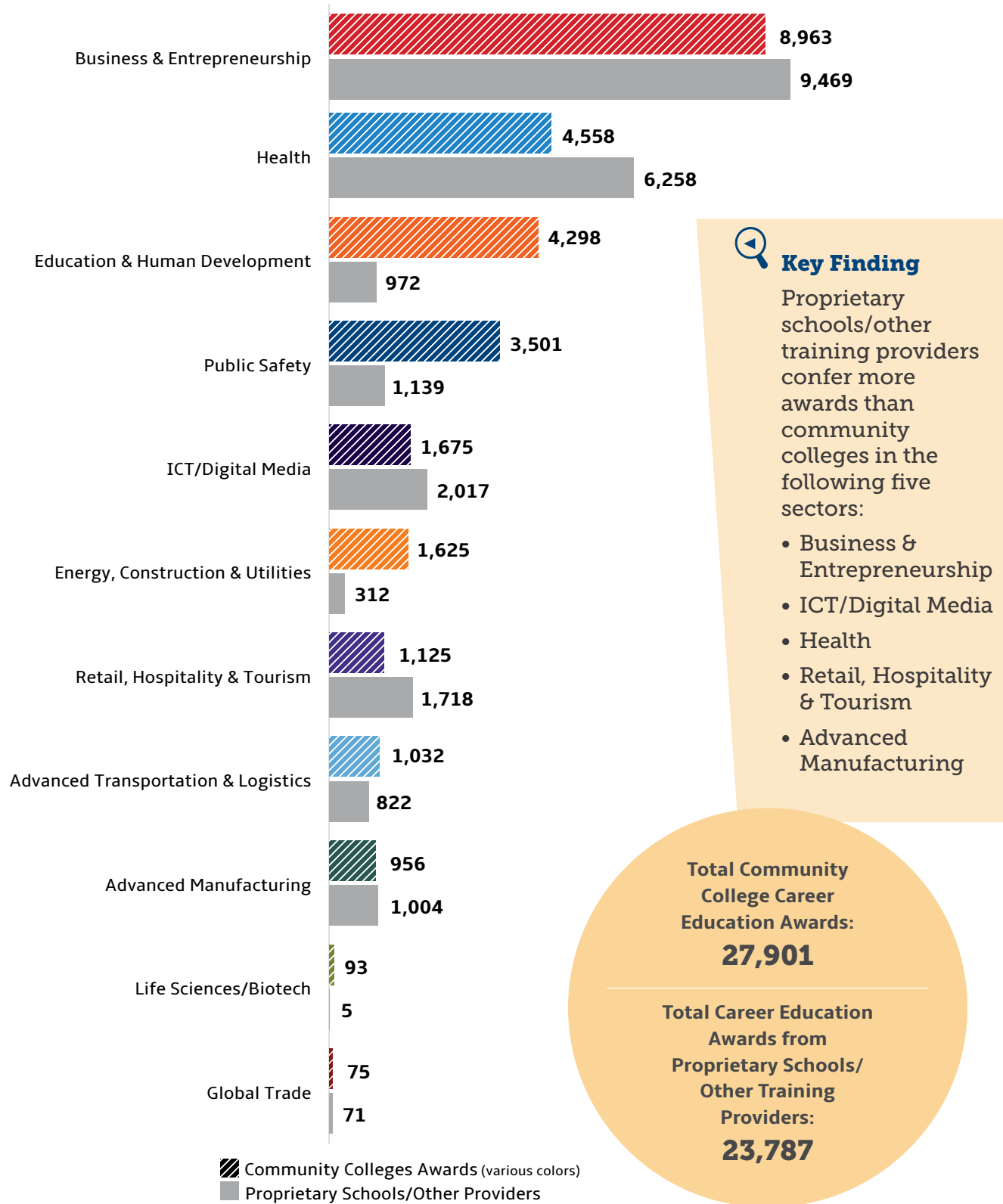- Average Annual Awards (various colors)

Key Finding

Career education awards somewhat mirror sector annual openings. The business & entrepreneurship sector leads the county in terms of annual openings and has the most related awards issued. A mismatch appears to exist for global trade, which has the second lowest number of awards behind life sciences/biotech, but has nearly 16,600 annual openings. However, there is overlap between occupations and skills sets associated with the global trade sector and the business & entrepreneurship sector, which may explain why awards are low in the global trade sector. The only sector where more awards are issued than available job openings is public safety, where awards outnumber job openings by approximately 600.

[3] Number of awards is the most recent three-year average awards issued by regional community colleges and proprietary schools/other training providers combined.

Exhibit 14. Student awards (degrees and certificates) from community colleges and proprietary schools/other training providers, by sector[4]

Sector	Community Colleges Awards	Proprietary Schools/Other Providers
Business & Entrepreneurship	8,963	9,469
Health	4,558	6,258
Education & Human Development	4,298	972
Public Safety	3,501	1,139
ICT/Digital Media	1,675	2,017
Energy, Construction & Utilities	1,625	312
Retail, Hospitality & Tourism	1,125	1,718
Advanced Transportation & Logistics	1,032	822
Advanced Manufacturing	956	1,004
Life Sciences/Biotech	93	5
Global Trade	75	71

▨ Community Colleges Awards (various colors)
▨ Proprietary Schools/Other Providers

Key Finding

Proprietary schools/other training providers confer more awards than community colleges in the following five sectors:

- Business & Entrepreneurship
- ICT/Digital Media
- Health
- Retail, Hospitality & Tourism
- Advanced Manufacturing

Total Community College Career Education Awards:
27,901

Total Career Education Awards from Proprietary Schools/ Other Training Providers:
23,787

[4] Due to different data collection periods, the most recent three-year period of available data for community colleges is 2017-18 to 2019-20 while the three-year period for proprietary schools and other training providers is 2016-17 to 2018-19.
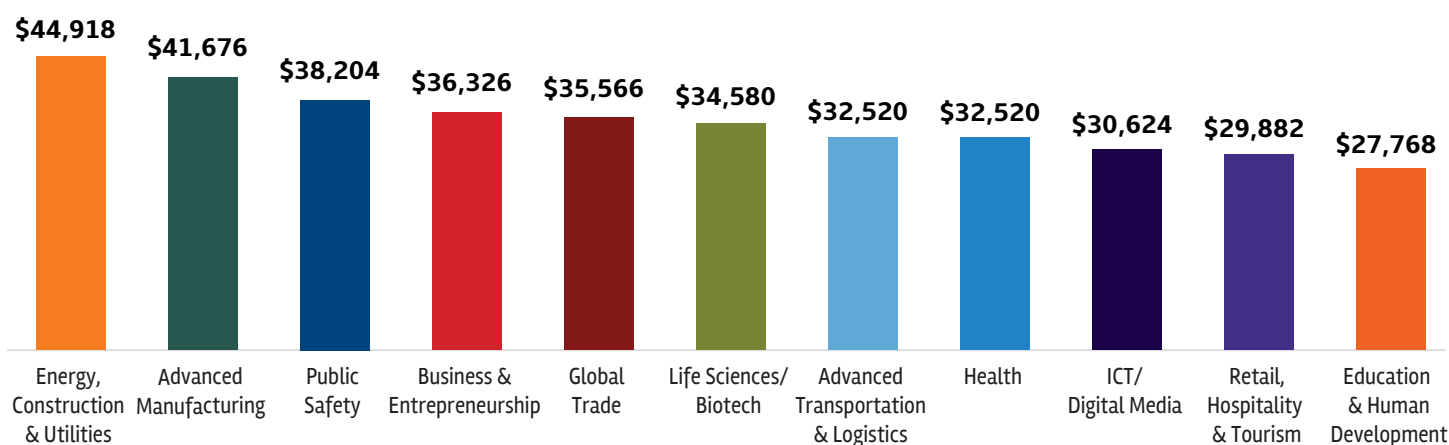
Student Employment Outcomes

Key Finding

Median annual earnings are highest among students exiting energy, construction & utilities programs and lowest among students exiting education & human development programs.
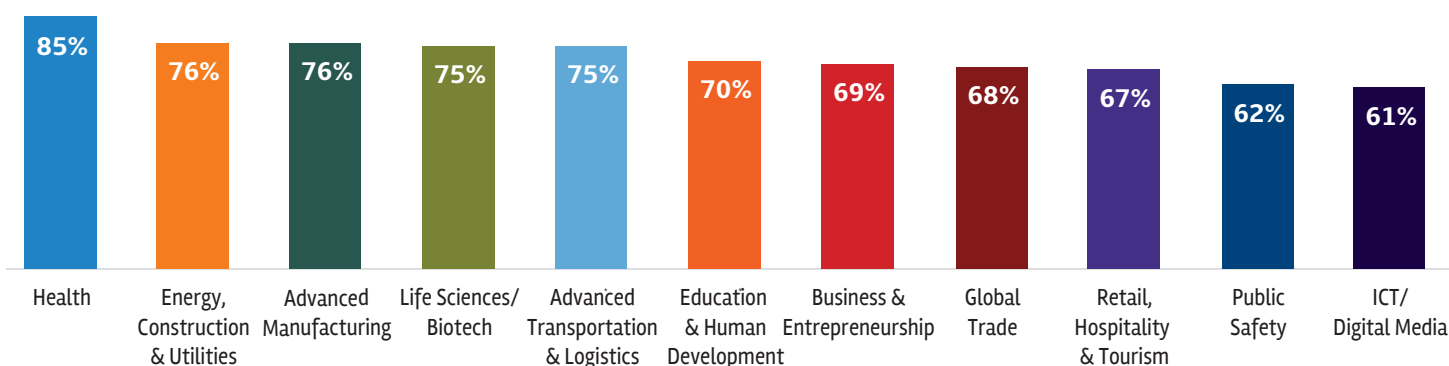
Exhibit 15. Median annual earnings for exiting students, 2018-19 academic year[5]

Energy, Construction & Utilities	Advanced Manufacturing	Public Safety	Business & Entrepreneurship	Global Trade	Life Sciences/ Biotech	Advanced Transportation & Logistics	Health	ICT/ Digital Media	Retail, Hospitality & Tourism	Education & Human Development
$44,918	$41,676	$38,204	$36,326	$35,566	$34,580	$32,520	$32,520	$30,624	$29,882	$27,768

Key Finding

A majority of students across all sectors report obtaining a job closely related to their field of study, with the highest percentages occurring among health students.

Exhibit 16. Students with a job closely related to their field of study, 2017-18 academic year[6]

Health	Energy, Construction & Utilities	Advanced Manufacturing	Life Sciences/ Biotech	Advanced Transportation & Logistics	Education & Human Development	Business & Entrepreneurship	Global Trade	Retail, Hospitality & Tourism	Public Safety	ICT/ Digital Media
85%	76%	76%	75%	75%	70%	69%	68%	67%	62%	61%

[5] Updated data since individual profiles were published.
[6] Updated data since individual profiles were published.

Conclusion

The 11 sector profiles along with the sector profiles summary were created as planning tools to support community college planning and engagement with industry representatives, employers, workforce development professionals, and other community stakeholders.

The key findings and analysis from these profiles along with the profiles summary can be applied to discussions about employment opportunities for students, cross-sector collaborations, calibrating partnerships between educators and industry to be more effective and efficient, and jumpstarting the exploration of new or overlooked areas for training and education programs.

These documents are not comprehensive, in that they do not include every single occupation within each sector. However, this decision was made out of necessity because dozens of occupations can be associated with each sector. As a result, attention was directed toward being selective in highlighting middle-skill occupations that are well paid and in demand.

Further analysis may be warranted for certain planning efforts to incorporate a broader range of occupations. The intention behind these profiles was to provide a starting point through careful data analysis to inspire further evaluation and consideration of how community colleges can support a vibrant workforce in Los Angeles County.

More About the Centers of Excellence

The Centers of Excellence (COE) for Labor Market Research deliver regional workforce research and technical expertise to California Community Colleges for program decision-making and resource-development. This information has proven valuable to colleges in beginning, revising, or updating economic development and Career Education (CE) programs, strengthening grant applications, assisting in the accreditation process, and in supporting strategic planning efforts.

The Centers of Excellence Initiative is funded in part by the Chancellor's Office, California Community Colleges, Economic and Workforce Development Program. The Centers aspire to be the leading source of regional workforce information and insight for California Community Colleges. More information about the Centers of Excellence is available at coeccc.net.

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