

EWD Annual Report: Industries & Occupations in Demand

Labor Market Information Update for 2018-2019 PY

Industry Employment in Priority Sectors

In the table below, industry employment data details the current number of jobs in the state for eight of the 10 priority sectors as well as the growth or decline in jobs anticipated through 2023. Sectors are sorted in descending order by projected change for the three-year period. All priority sectors are anticipated to experience new job growth with the exception of Advanced Manufacturing which is projected to contract by about 34,400 jobs. Also shown are the most recent total earnings per worker – an estimate of annual average earnings for the industry groupings as well as the same estimates adjusted for Cost of Living in California, and the estimated numbers of establishments (firms) in 2018.

For community college planning, it is important to remember that industry employment data, such as that below, while an important measure of size and strength, reflects new job growth or anticipated decline across all jobs in the industry but does not show the estimated need for replacement workers which is an important measure of demand for assessing occupational training programs.

Priority Sector ¹	2018 Estimated Jobs	Projected Change (2018-2023)	% Change	Total Earnings, 2018 ²	COL Adj. Earnings ³	# of Firms in 2018
Retail, Hospitality & Tourism	3,911,363	214,550	5.5%	\$38,823	\$29,081	214,933
Health	1,730,160	206,830	12.0%	\$85,328	\$63,916	91,612
Information & Communications Technology/Digital Media	1,082,781	136,761	12.6%	\$184,112	\$137,912	54,430
Advanced Transportation & Logistics	1,021,221	106,818	10.5%	\$63,813	\$47,800	51,746
Life Sciences/Biotechnology	1,588,381	98,453	6.2%	\$103,917	\$77,840	101,135
Energy, Utility and Construction	911,702	94,683	10.4%	\$117,309	\$87,872	22,650
Agriculture, Water and Environmental Technologies	650,578	22,030	3.4%	\$52,325	\$39,195	30,895
Advanced Manufacturing	1,360,773	(34,379)	(2.5%)	\$114,098	\$85,467	44,554
All Industries in California⁴	19,747,652	1,228,165	6.0%	\$78,673	\$58,931	1,559,973

In the section to follow, **select occupations** are profiled for the 2018-2023 period – these are examples of occupations generally associated with the priority sectors and that have established community college application. Occupations are arranged in descending order by annual openings. Although chosen for their relevance to one priority sector, the data that follow represent employment estimates, projections and wages for the occupation across all industries.

¹ All employment data in this report provided by Economic Modeling Specialists International (EMSI), 2019.3 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Totals are not representative of all industry employment or firms in California.

² Also called “Wages Salaries & Proprietor Earnings”, average annual earnings is the result of total pre-tax industry earnings divided by same-year industry employment. Earnings are defined as labor-related personal income—that is, income from work. Income from stock dividends or interest, rents, Social Security and other non-work sources are not included.

³ Emsi’s total earnings, adjusted by the C2ER Cost of Living Index (COLI). The Cost of Living index is based off a 100 base scale, so to adjust the earnings, Emsi first divides their total earnings estimate by the COLI and then multiplies the result by 100.

⁴ Industry subsectors overlap within priority groupings causing duplication in the data and many additional subsectors are not included in any priority grouping, therefore calculating a ‘sum of industry groupings’ is not recommended.

Occupational Employment Outlook in California (2018-2023): Select Occupations by Priority Sector

Agriculture, Water & Environmental Technologies – Example Occupations

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages ⁵	COL Median Annual Wages ⁶
Environmental Scientists and Specialists, Incl. Health†	13,334	560	6,267	6,827	1,365	\$87,168	\$65,294
Veterinary Technologists/Technicians	9,576	1,482	3,967	5,449	1,090	\$40,026	\$29,982
Environmental Science and Protection Technicians, Incl. Health	5,516	227	3,256	3,483	697	\$57,286	\$42,911
Agricultural and Food Science Technicians	4,644	117	2,373	2,490	498	\$42,849	\$32,097
Agricultural Inspectors†	2,276	80	1,528	1,608	322	\$45,510	\$34,090

Life Sciences/Biotechnology – Example Occupations

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
Clinical Laboratory Technologists/Technicians	29,159	2,851	9,331	12,182	2,436	\$55,504	\$41,576
Biological Technicians†	11,277	714	5,607	6,321	1,264	\$50,107	\$37,533
Life, Physical, and Social Science Technicians, All Other	7,465	467	4,432	4,899	980	\$53,149	\$39,812
Chemical Technicians	6,250	167	3,033	3,200	640	\$44,346	\$33,218
Environmental Science and Protection Technicians, Including Health	5,516	227	3,256	3,483	697	\$57,286	\$42,911

Energy Efficiency, Utilities & Construction – Example Occupations

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
Carpenters	152,817	8,606	71,533	80,139	16,028	\$50,820	\$38,068
Electricians	78,595	6,946	44,967	51,913	10,383	\$62,417	\$46,754
Plumbers, Pipefitters, and Steamfitters	57,280	6,385	31,190	37,575	7,515	\$54,581	\$40,885
Construction Managers†	55,436	3,331	19,356	22,687	4,537	\$82,623	\$61,890
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	33,822	4,027	17,045	21,072	4,214	\$53,297	\$39,923
Telecommunications Line Installers and Repairers	14,406	3	7,468	7,471	1,494	\$68,892	\$51,605

⁵ Occupational wage data come from the BLS's OES dataset. It is collected from the employer's perspective, meaning earnings data is pre-tax (individual employees' tax withholdings will vary, so earnings are reported pre-tax). Occupation earnings include the following: base rate, commissions, cost of living allowances, deadheading pay, guaranteed pay, hazard pay, incentive pay, longevity pay, over-the-road pay, piece rates, portal-to-portal rates, production bonuses, and tips.

⁶ OES occupational wage data adjusted by the C2ER Cost of Living Index (COLI). The Cost of Living index is based off a 100 base scale, so to adjust the earnings, Emsi first divides their total earnings estimate by the COLI, then multiplies the result by 100. The index is comprised of six major categories: grocery items, housing, utilities, transportation, health care, and miscellaneous goods and services.

Healthcare – Example Occupations

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
Registered Nurses	303,260	31,437	79,589	111,026	22,205	\$104,186	\$78,042
Nursing Assistants	105,022	13,749	61,946	75,695	15,139	\$33,033	\$24,744
Medical Assistants	96,892	12,351	53,931	66,282	13,256	\$36,064	\$27,014
Licensed Vocational Nurses	68,385	7,467	25,197	32,664	6,533	\$55,591	\$41,642
Dental Assistants	54,803	5,973	31,120	37,093	7,419	\$38,754	\$29,029
Radiologic Technologists	18,013	1,864	4,834	6,698	1,340	\$79,203	\$59,328

Information & Communications Technology/Digital Media (ICT-DM) – Example Occupations

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
Office Clerks, General	380,703	8,483	226,089	234,572	46,914	\$35,316	\$26,454
Computer User Support Specialists	81,948	8,862	31,136	39,998	8,000	\$61,415	\$46,004
Network and Computer Systems Administrators†	38,954	2,927	12,417	15,344	3,069	\$93,401	\$69,963
Computer Network Support Specialists	19,824	1,863	7,482	9,345	1,869	\$71,467	\$53,534
Information Security Analysts†	8,441	1,714	3,060	4,774	955	\$109,194	\$81,793

Advanced Manufacturing – Example Occupations

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
First-Line Supervisors of Production and Operating Workers	53,032	907	26,812	27,719	5,544	\$61,792	\$46,286
Machinists	38,216	522	19,947	20,469	4,094	\$44,901	\$33,634
Welders, Cutters, Solderers, and Brazers	30,995	1,625	16,909	18,534	3,707	\$42,232	\$31,634
Mechanical Engineers†	28,605	1,625	9,317	10,942	2,188	\$101,264	\$75,853
Industrial Machinery Mechanics	27,842	1,484	12,357	13,841	2,768	\$56,587	\$42,388
Electrical Engineers†	27,543	1,161	9,043	10,204	2,041	\$109,925	\$82,341

Retail, Hospitality and Tourism – Example Occupations

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
General and Operations Managers†	260,321	17,997	107,798	125,795	25,159	\$113,373	\$84,923
First-Line Supervisors of Retail Sales	157,238	1,690	84,754	86,444	17,289	\$39,014	\$29,224
Food Service Managers	53,989	3,214	29,298	32,512	6,502	\$46,718	\$34,995
Buyers and Purchasing Agents†	52,456	(688)	24,928	24,928	4,986	\$65,846	\$49,323
Meeting, Convention, and Event Planners†	19,004	1,420	11,138	12,558	2,512	\$52,622	\$39,417
Tour and Travel Guides	8,037	603	7,132	7,735	1,547	\$31,715	\$23,757

Advanced Transportation and Logistics – Example Occupations

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
Automotive Service Technicians/Mechanics	84,934	3,126	40,053	43,179	8,636	\$43,169	\$32,336
First-Line Supervisors of Mechanics, Installers, and Repairers	42,176	2,753	18,340	21,093	4,219	\$76,691	\$57,446
Bus/Truck Mechanics and Diesel Engine Specialists	25,060	1,872	11,482	13,354	2,671	\$53,937	\$40,403
Logisticians†	24,397	882	11,999	12,881	2,576	\$80,808	\$60,531
Aircraft Mechanics and Service Technicians	19,805	1,322	8,027	9,349	1,870	\$70,917	\$53,121
Transportation, Storage, and Distribution Managers	20,668	1,138	8,017	9,155	1,831	\$96,182	\$72,046

†The typical entry level education needed for this occupation is a Bachelor's degree. Other pathways are always possible; however, a majority workers in the occupation over the age of 25 report having attained a Bachelor's degree or higher.

Global Trade & Logistics

In 2018, California goods exports were valued at \$178 billion, an increase of 23% over 10 years, with traded goods to Mexico, Canada, China, Japan and South Korea leading the market. Top export categories include aircraft engines and parts, semiconductor devices, almonds, electric vehicles, petroleum, and pistachios.

- In 2018, California goods exports accounted for 6% of the state's gross domestic product.
- In 2016 (latest year available), goods exports activities in California supported about 684,000 jobs.
- An estimated 72,665 companies exported from California locations in 2016 (latest year available).
 - Of those, 96% were small and medium sized enterprises with fewer than 500 employees.
 - Small and medium-sized firms generated over two-fifths (43%) of California's total exports of merchandise in 2016.

Foreign investment drives job creation as well. In 2015 (latest year available), an estimated 769,200 California workers were employed by foreign-controlled companies, led by Japan, the United Kingdom, and France.

Source: Office of the United States Trade Representative, online at <https://ustr.gov/map/state-benefits/ca>. Sources include resources from the U.S. Department of Commerce's International Trade Administration, Bureau of the Census, and Bureau of Economic Analysis.

Global Trade & Logistics – Example Occupations*

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
Business Operations Specialists, All Other†	185,622	8,595	84,525	93,120	18,624	\$75,042	\$56,211
Market Research Analysts and Marketing Specialists†	105,820	13,074	53,238	66,312	13,262	\$68,420	\$51,251
Shipping, Receiving, and Traffic Clerks	88,881	1,607	46,089	47,696	9,539	\$33,777	\$25,301
Sales Representatives, Wholesale and Mfg., Technical and Scientific Products†	44,391	1,176	23,161	24,337	4,867	\$80,531	\$60,323
Web Developers	27,724	3,325	10,128	13,453	2,691	\$71,203	\$53,335
Cargo and Freight Agents	13,506	1,273	5,836	7,109	1,422	\$43,950	\$32,922

*Within traditional occupations, some portion of each may support global trade or require global trade expertise. Related job titles found within these occupations include accounting analysts, import clerks, public relations specialists, social media specialists, financial analysts, e-commerce managers, customs brokers, social media managers and international banking specialists.

Business & Entrepreneurship

In the third quarter of 2018, there were close to 1.6 million non-farm businesses in California, supporting more than 17.3 million employees.

- Of these, 90% or about 1.4 million reported employing fewer than 20 employees. In total, firms with fewer than 20 employees accounted for approximately 4.2 million jobs and supported close to 18% of all payroll generated in California.
- In the smallest firm category (fewer than five employees), 1.1 million businesses represented about 1.4 million jobs throughout the state.

Source: California Employment Development Department, Labor Market Information Division's Size of Business Data for California, Third Quarter, 2018. Online at: http://www.labormarketinfo.edd.ca.gov/LMID/Size_of_Business_Data.html/.

Business & Entrepreneurship – Example Occupations:

Occupation	2018 Jobs	Projected Change	Replacements	Total Openings	Annual Openings	Median Annual Wages	COL Median Annual Wages
Bookkeeping, Accounting, and Auditing Clerks	211,883	1,357	119,351	120,708	24,142	\$46,211	\$34,615
First-Line Supervisors of Office and Administrative Support Workers	173,828	5,676	85,938	91,614	18,323	\$59,108	\$44,275
Sales Representatives, Wholesale and Mfg., Except Technical & Scientific Products	160,919	181	84,220	84,401	16,880	\$59,449	\$44,531
Sales Representatives, Wholesale and Mfg, Except Technical & Scientific Products	161,503	97	50,576	50,673	16,891	\$59,449	\$44,698
Payroll and Timekeeping Clerks	24,229	240	12,163	12,403	2,481	\$50,862	\$38,099
Human Resources Assistants, Except Payroll and Timekeeping	15,514	286	8,661	8,947	1,789	\$42,120	\$31,551