



Education Report

Logistics, Materials, and Supply Chain Management

California



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Definition of Logistics, Materials, and Supply Chain Management, CIP 52.0203

A program that prepares individuals to manage and coordinate all logistical functions in an enterprise, ranging from acquisitions to receiving and handling, through internal allocation of resources to operations units, to the handling and delivery of output. Includes instruction in acquisitions and purchasing, inventory control, storage and handling, just-in-time manufacturing, logistics planning, shipping and delivery management, transportation, quality control, resource estimation and allocation, and budgeting.

Awards

The table below is a list of postsecondary awards in CIP 52.0203 that were granted by institutions located in California in the 2021 academic year.

Schools	Certs & 2yr Awards ¹	4yr Awards ²	Post-Grad Awards ³	Avg Net Price ⁴
Coastline Community College	150			\$8,953
Ashford University		108		\$23,585
East Los Angeles College	58			\$12,028
Norco College	30			\$7,404
San Jose State University			24	\$14,603
University of San Diego		6	17	\$34,155
University of Southern California			22	\$26,021
Naval Postgraduate School			19	
Mt San Antonio College	12			\$5,774
Chaffey College	9			\$13,939
California State University-Long Beach			8	\$9,171
Barstow Community College	6			\$9,756
Santa Monica College	6			\$6,380
Rio Hondo College	5			\$7,873
San Joaquin Delta College	4			\$17,503
Southwestern College	4			\$6,789
Los Angeles Pacific University		2		\$20,487
Modesto Junior College	2			\$14,421
California State University-Dominguez Hills		1		\$4,500
University of Redlands	1			\$21,578
California State University-Los Angeles				\$2,695
Los Angeles Harbor College				\$12,787
Riverside City College				\$7,161
Total	287	117	90	

1. Undergraduate certificates and associate's degrees

2. Bachelor's degrees and post-baccalaureates

3. Master's, post-master's, and doctorates

4. Average net price represents full-time beginning undergraduate students who paid the in-state or in-district tuition rate and were awarded grant or scholarship aid from federal, state or local governments, or the institution. Data as of the 2020-2021 academic year.

Awards data are per the National Center for Education Statistics (NCES) and JobsEQ for the 2021 academic year. Any programs shown here reflect only data reported to the NCES; reporting is required of all schools participating in any federal finance assistance program authorized by Title IV of the Higher Education Act of 1965, as amended—other training providers in the region that do not report data to the NCES are not reflected in the above.

Occupation Crosswalk

The below table lists all occupations linked with the program, Logistics, Materials, and Supply Chain Management, CIP 52.0203.

		Education and Training Requirements			Educational Attainment				
		Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-the-Job Training Needed to Attain Competency in the Occupation	No College	Some College, No Degree	Associate's Degree	Bachelor's Degree	Postgraduate Degree
11-3051	Industrial Production Managers	Bachelor's degree	5 years or more	None	17%	14%	8%	42%	20%
11-3071	Transportation, Storage, and Distribution Managers	High school diploma or equivalent	5 years or more	None	29%	20%	10%	31%	11%
13-1081	Logisticians	Bachelor's degree	None	None	13%	16%	12%	42%	17%
25-1011	Business Teachers, Postsecondary	Doctoral or professional degree	None	None	1%	1%	1%	14%	83%
43-5011	Cargo and Freight Agents	High school diploma or equivalent	None	Short-term on-the-job training	25%	24%	13%	33%	5%
43-5071	Shipping, Receiving, and Inventory Clerks	High school diploma or equivalent	None	Short-term on-the-job training	51%	23%	9%	15%	3%
53-1041	Aircraft Cargo Handling Supervisors	High school diploma or equivalent	Less than 5 years	None	38%	25%	12%	20%	6%
53-1047	First-Line Supervisors of Material Moving Workers, Except Aircraft Cargo Handling Supervisors	High school diploma or equivalent	Less than 5 years	None	37%	25%	12%	20%	6%

Education and training requirements are from the Bureau of Labor Statistics (BLS); educational attainment mix are regional data modeled by Chmura using Census educational attainment data projected to 2022Q4 along with source data from the BLS

Definition of Industrial Production Managers (11-3051)

Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.

Definition of Transportation, Storage, and Distribution Managers (11-3071)

Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations. Includes logistics managers.

Definition of Logisticians (13-1081)

Analyze and coordinate the ongoing logistical functions of a firm or organization. Responsible for the entire life cycle of a product, including acquisition, distribution, internal allocation, delivery, and final disposal of resources.

Definition of Business Teachers, Postsecondary (25-1011)

Teach courses in business administration and management, such as accounting, finance, human resources, labor and industrial relations, marketing, and operations research. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.

Definition of Cargo and Freight Agents (43-5011)

Expedite and route movement of incoming and outgoing cargo and freight shipments in airline, train, and trucking terminals and shipping docks. Take orders from customers and arrange pickup of freight and cargo for delivery to loading platform. Prepare and examine bills of lading to determine shipping charges and tariffs.

Definition of Shipping, Receiving, and Inventory Clerks (43-5071)

Verify and maintain records on incoming and outgoing shipments involving inventory. Duties include verifying and recording incoming merchandise or material and arranging for the transportation of products. May prepare items for shipment.

Definition of Aircraft Cargo Handling Supervisors (53-1041)

Supervise and coordinate the activities of ground crew in the loading, unloading, securing, and staging of aircraft cargo or baggage. May determine the quantity and orientation of cargo and compute aircraft center of gravity. May accompany aircraft as member of flight crew and monitor and handle cargo in flight, and assist and brief passengers on safety and emergency procedures. Includes loadmasters.

Definition of First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors (53-1047)

Occupation Details

As of 2022Q4, total employment for occupations linked to Logistics, Materials, and Supply Chain Management in California was 266,668. Over the past three years, linked occupations added 16,831 jobs in the region and are expected to need in aggregate approximately 200,827 newly trained workers over the next seven years.

Snapshot of Occupations Linked to Logistics, Materials, and Supply Chain Management in California¹

SOC	Occupation	Current					3-Year History		7-Year Forecast				
		Empl	Mean Ann Wages ²	LQ	Unempl	Unempl Rate	Online Job Ads ³	Ann %	Total Demand	Exits	Transfers	Empl Growth	Avg Ann Growth %
43- 5071	Shipping, Receiving, and Inventory Clerks	96,084	\$44,200	0.95	5,612	5.7%	861	0.8%	67,326	26,756	45,029	-4,459	-0.7%
53- 1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	75,563	\$64,500	0.98	1,202	1.6%	400	3.4%	65,983	19,406	44,203	2,374	0.4%
13- 1081	Logisticians	25,586	\$92,800	1.07	926	3.7%	776	4.3%	22,555	5,436	12,080	5,039	2.6%
11- 3051	Industrial Production Managers	25,348	\$133,500	1.01	238	1.0%	762	2.3%	13,268	3,952	8,801	515	0.3%
11- 3071	Transportation, Storage, and Distribution Managers	24,063	\$115,000	1.27	298	1.3%	1,035	3.4%	15,628	4,183	10,108	1,337	0.8%
43- 5011	Cargo and Freight Agents	13,451	\$55,000	1.16	476	3.5%	258	0.6%	11,535	4,269	6,598	667	0.7%
25- 1011	Business Teachers, Postsecondary	5,109	\$141,100	0.54	94	1.8%	694	-1.1%	3,216	1,645	1,389	183	0.5%
53- 1041	Aircraft Cargo Handling Supervisors	1,463	\$63,500	1.17	23	1.6%	29	5.3%	1,317	380	865	72	0.7%
Total - Linked Occupations		266,668	\$72,000	0.99	8,868	3.3%	4,815	2.2%	200,827	66,026	129,072	5,729	0.3%
Total - All Occupations		19,219,968	\$71,900	1.00	797,161	4.1%	549,411	0.6%	17,029,863	6,722,656	9,379,252	927,955	0.7%

Source: [JobsEQ®](#)

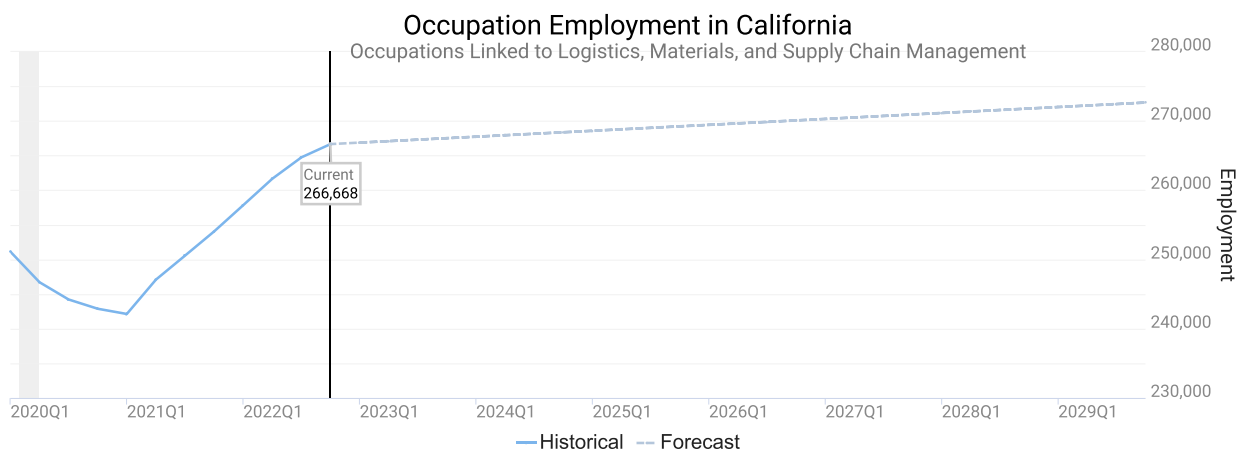
Data as of 2022Q4 unless noted otherwise

Note: Figures may not sum due to rounding.

1. Data based on a four-quarter moving average unless noted otherwise.

2. Wage data represent the average for all Covered Employment

3. Data represent found online ads active within the last thirty days in the selected region. Due to alternative county-assignment algorithms, ad counts in this analytic may not match that shown in RTI (nor in the popup window ad list). Ad counts for ZCTA-based regions are estimates.



Source: JobsEQ®. Data as of 2022Q4. The shaded areas of the graph represent national recessions.

Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2022Q3, imputed where necessary with preliminary estimates updated to 2022Q4. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns. Occupation unemployment figures are imputed by Chmura.

Employment by Industry

The table illustrates the industries in California which most employ occupations linked to Logistics, Materials, and Supply Chain Management. The single industry most employing these occupations in the region is Warehousing and Storage, NAICS 4931. This industry employs 21,989 workers in the linked occupations—employment which is expected to increase by 2,291 jobs over the next ten years; furthermore, 24,733 additional new workers in these linked occupations will be needed for this industry due to separation demand, that is, to replace workers in this occupation and industry that retire or move into a different occupation.

Industry Distribution for Occupations Linked to Logistics, Materials, and Supply Chain Management in California

NAICS Code	Industry Title	Current			10-Year Demand		
		% of Occ Empl	Empl	Exits	Transfers	Empl Growth	Total Demand
4931	Warehousing and Storage	8.2%	21,989	8,321	16,413	2,291	27,025
4885	Freight Transportation Arrangement	4.8%	12,917	5,310	8,961	1,031	15,302
4921	Couriers and Express Delivery Services	4.2%	11,068	4,338	8,600	1,179	14,118
4451	Grocery and Convenience Retailers	3.1%	8,229	2,968	6,064	-727	8,306
5613	Employment Services	2.5%	6,558	2,535	4,547	-1	7,082
4853	Taxi and Limousine Service	2.4%	6,335	2,104	4,814	-525	6,393
4244	Grocery and Related Product Merchant Wholesalers	2.3%	6,180	2,192	4,512	184	6,888
5511	Management of Companies and Enterprises	2.1%	5,641	1,694	3,607	594	5,895
4841	General Freight Trucking	1.9%	5,156	1,778	3,910	304	5,992
8129	Other Personal Services	1.7%	4,616	1,632	3,713	-82	5,263
5416	Management, Scientific, and Technical Consulting Services	1.6%	4,231	1,469	3,009	1,139	5,616
6113	Colleges, Universities, and Professional Schools	1.6%	4,159	1,889	1,765	305	3,959
3364	Aerospace Product and Parts Manufacturing	1.5%	3,917	1,161	2,356	109	3,626
4441	Building Material and Supplies Dealers	1.5%	3,914	1,474	2,800	-92	4,181
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	1.3%	3,570	1,067	2,130	51	3,247
4552	Warehouse Clubs, Supercenters, and Other General Merchandise Retailers	1.3%	3,347	1,241	2,453	-85	3,608
8111	Automotive Repair and Maintenance	1.2%	3,266	1,191	2,667	91	3,950
3344	Semiconductor and Other Electronic Component Manufacturing	1.1%	2,940	908	1,788	114	2,810
5417	Scientific Research and Development Services	1.1%	2,822	795	1,714	501	3,010
4881	Support Activities for Air Transportation	1.1%	2,816	1,119	2,132	356	3,607
	All Others	53.6%	142,998	49,116	96,402	1,866	147,384

Source: JobsEQ®

Data as of 2022Q4 except wages which are as of 2021. Note that occupation-by-industry wages represent adjusted national data and may not be consistent with regional, all-industry occupation wages shown elsewhere in JobsEQ.

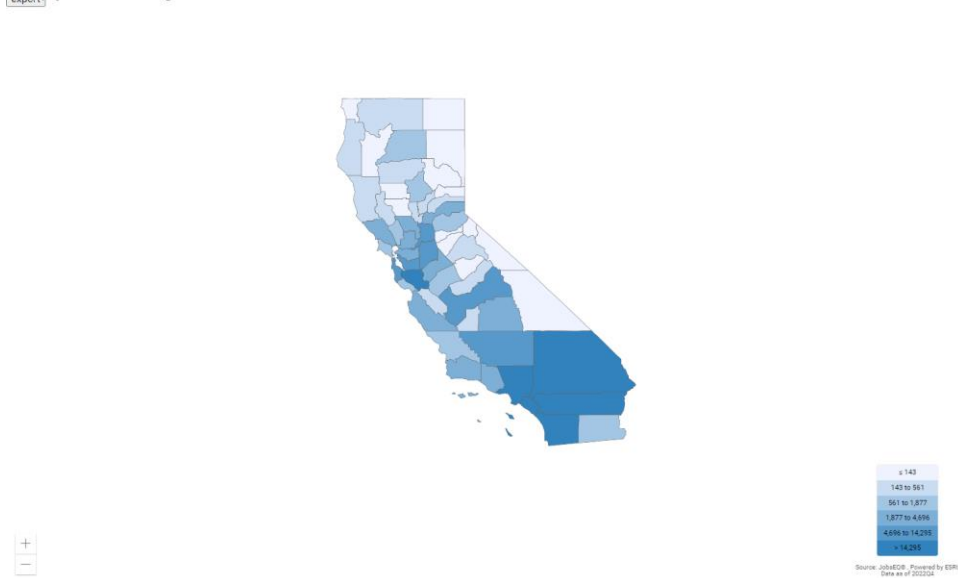
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Geographic Distribution

The map below illustrates the county-level distribution of employed workers in California in occupations linked to Logistics, Materials, and Supply Chain Management. Employment is shown by place of work.

California, Occupation Concentration by Place of Work for Occupations Linked to Logistics, Materials, and Supply Chain Management



Top Counties with Employment Linked to Logistics, Materials, and Supply Chain Management, 2022Q4

Region	Employment
Los Angeles County, California	73,767
Orange County, California	23,060
San Diego County, California	20,508
San Bernardino County, California	20,122
Santa Clara County, California	15,125
Riverside County, California	14,295
Alameda County, California	13,581
Sacramento County, California	7,568
San Francisco County, California	7,065
San Joaquin County, California	6,753

Source: JobsEQ®

Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2022Q3, imputed where necessary with preliminary estimates updated to 2022Q4.

Demographic Profile

The population in California was 39,346,023 per American Community Survey data for 2016-2020.

Of individuals 25 to 64 in California, 35.4% have a bachelor's degree or higher which compares with 34.3% in the nation. Per American Community Survey 2016-2020 estimates, the region has about 576,714 students enrolled in grade 12.

Summary¹

	Percent		Value	
	California	USA	California	USA
Demographics				
Population (ACS)	—	—	39,346,023	326,569,308
Male	49.7%	49.2%	19,562,882	160,818,530
Female	50.3%	50.8%	19,783,141	165,750,778
Median Age ²	—	—	36.7	38.2
Under 18 Years	22.8%	22.4%	8,956,641	73,296,738
18 to 24 Years	9.5%	9.3%	3,724,239	30,435,736
25 to 34 Years	15.3%	13.9%	6,007,913	45,485,165
35 to 44 Years	13.3%	12.7%	5,233,903	41,346,677
45 to 54 Years	12.8%	12.7%	5,039,155	41,540,736
55 to 64 Years	12.0%	12.9%	4,739,675	42,101,439
65 to 74 Years	8.3%	9.4%	3,270,380	30,547,950
Population Growth				
Population (Pop Estimates) ⁴	—	—	39,029,342	333,287,557
Population Annual Average Growth ⁴	0.3%	0.6%	108,479	1,940,990
People per Square Mile	—	—	250.4	94.3
Educational Attainment, Age 25-64				
No High School Diploma	15.2%	10.5%	3,199,850	17,929,220
High School Graduate	20.4%	25.4%	4,282,776	43,289,555
Some College, No Degree	21.0%	20.5%	4,412,172	34,959,338
Associate's Degree	8.0%	9.3%	1,678,082	15,776,790
Bachelor's Degree	22.6%	21.6%	4,741,354	36,888,244
Postgraduate Degree	12.9%	12.7%	2,706,412	21,630,870
Social				
Poverty Level (of all people)	12.6%	12.8%	4,853,434	40,910,326
Households Receiving Food Stamps/SNAP	9.0%	11.4%	1,183,873	13,892,407
Enrolled in Grade 12 (% of total population)	1.5%	1.3%	576,714	4,358,865
Disconnected Youth ³	1.9%	2.5%	38,451	433,164
Children in Single Parent Families (% of all children)	32.8%	34.0%	2,796,858	23,628,508
Uninsured	7.2%	8.7%	2,806,173	28,058,903
Speak English Less Than Very Well (population 5 yrs and over)	17.4%	8.2%	6,432,102	25,312,024

Source: [JobsEQ®](https://www.chmuraecon.com/jobseq)

1. American Community Survey 2016-2020, unless noted otherwise

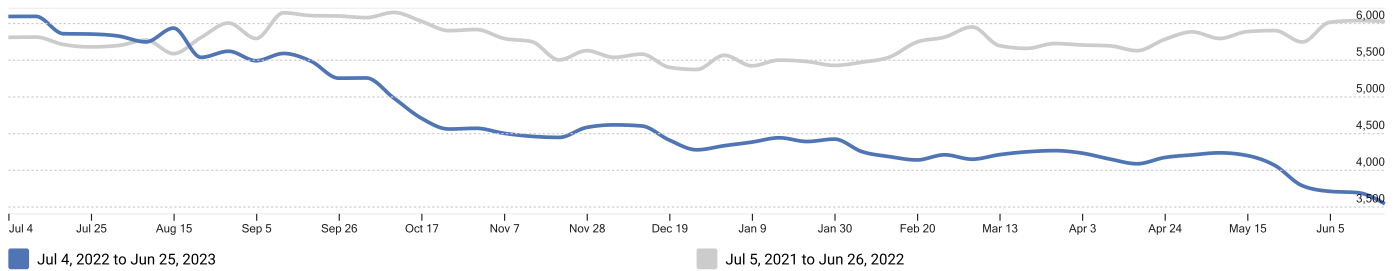
2. Median values for certain aggregate regions (such as MSAs) may be estimated as the weighted averages of the median values from the composing counties.

3. Disconnected Youth are 16-19 year olds who are (1) not in school, (2) not high school graduates, and (3) either unemployed or not in the labor force.

4. Census Population Estimate for 2022, annual average growth rate since 2012. Post-2019 data for Connecticut counties are imputed by Chmura.

RTI (Job Postings)

Active Job Ads by Date



Occupations

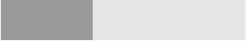
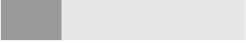
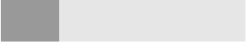
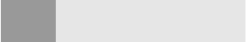
SOC	Occupation	Active Job Ads
43- 5071.00	Shipping, Receiving, and Inventory Clerks	5,411
13- 1081.02	Logistics Analysts	3,856
11- 3071.00	Transportation, Storage, and Distribution Managers	3,581
11- 3071.04	Supply Chain Managers	2,686
11- 3051.01	Quality Control Systems Managers	2,357
11- 3051.00	Industrial Production Managers	2,277
25- 1011.00	Business Teachers, Postsecondary	2,242
53- 1043.00	First-Line Supervisors of Material-Moving Machine and Vehicle Operators	1,953
43- 5011.00	Cargo and Freight Agents	1,923
13- 1081.00	Logisticians	1,355

Locations

Location	Active Job Ads
Los Angeles, California	955
San Diego, California	838
San Francisco, California	505
San Jose, California	479
Fremont, California	467
Irvine, California	369

Locations

**Active
Job
Ads**

Location		
Sacramento, California	359	
University of Southern California (USC)	237	
Ontario, California	228	
Sunnyvale, California	215	

Employers

Employer Name	Active Job Ads	
NORTHROP GRUMMAN	661	
Express Employment Professionals	423	
Fusion Medical Staffing	335	
Appleone	309	
Los Angeles, California	294	
XPO Logistics	268	
TESLA	263	
Ultimate Staffing	190	
Robert Half	164	
Aerotek	160	

Certifications

Certificate Name	Active Job Ads	
Driver's License	493	
Secret Clearance	229	
Forklift Certified	162	
Project Management Professional (PMP)	126	
HAZMAT	114	
Certified Supply Chain Professional (CSCP)	111	
Commercial Driver's License (CDL)	101	
Certified Quality Auditor (CQA)	94	
Certified Quality Engineer (CQE)	94	
Certified in Production and Inventory Management (CPIM)	86	

Hard Skills

Skill Name	Active Job Ads	
Microsoft Excel	6,985	
Microsoft Office	5,686	
Manufacturing	2,783	
Microsoft PowerPoint	2,507	
SAP	2,406	
Microsoft Outlook	2,370	
Supply Chain Management	2,296	
Ability to Lift 51-100 lbs.	1,805	
Microsoft Word	1,726	
Ability to Lift 41-50 lbs.	1,454	

Soft Skills

Skill Name	Active Job Ads	
Communication (Verbal and written skills)	17,889	
Cooperative/Team Player	9,613	
Supervision/Management	6,492	
Organization	5,850	
Problem Solving	5,632	
Customer Service	5,477	
Detail Oriented/Meticulous	5,357	
Analytical	4,503	
Ability to Work in a Fast Paced Environment	3,927	
Interpersonal Relationships/Maintain Relationships	3,571	

Job Titles

Job Title	Active Job Ads	
Logistics Coordinator	497	
Shipping Clerk	487	
Shipping and Receiving Clerk	415	
Shipping/Receiving Clerk	404	
Production Manager	392	
CLS	357	
Warehouse Manager	349	
Warehouse Supervisor	325	
Receiving Clerk	237	
Quality Assurance Manager	213	

Job Types

Type	Active Job Ads	
Full-Time	15,913	
Permanent	1,830	
Part-Time	1,421	
Temporary (unspecified)	1,403	
Remote	1,046	
Temp-to-Hire	498	
Temporary (long-term)	166	
Temporary (short-term)	93	
Remote Not Indicated	27,973	

Programs

Program Name	Active Job Ads	
Business	2,345	
Engineering	1,925	
Business Administration	1,498	
Supply Chain	1,388	
Supply Chain Management	935	
Logistics	777	
Finance	579	
Economics	433	
Science	414	
Industrial Engineering	384	

Education Levels

Minimum Education Level	Active Job Ads	
Bachelor's degree	9,393	
High school diploma or equivalent	6,378	
Master's degree	892	
Associate's degree	852	
Doctoral or professional degree	388	
Unspecified/other	11,116	

California Regional Map



FAQ

What is CIP?

The 2010 Classification of Instructional Programs (CIP) is taxonomy of instructional program classifications and descriptions. It was developed and has been updated by the U.S. Department of Education's National Center for Education Statistics (NCES).

What is SOC?

The Standard Occupational Classification system (SOC) is used to classify workers into occupational categories. All workers are classified into one of over 804 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 22 major groups, 95 minor groups, and 452 occupation groups. Each occupation group includes detailed occupations requiring similar job duties, skills, education, or experience.

What is the source of the job ads?

Job ads data are online job posts from the Real-Time Intelligence (RTI) data set, produced wholly by Chmura and gleaned from over 40,000 websites. Data reflect ads active during the last twelve month period ending 06/29/2023 and advertised for any Zip Code Tabulation Area in or intersecting with the region for which this report was produced. Historical ad volume is revised as additional data are made available and processed. Since many extraneous factors can affect short-term volume of online job postings, time-series data can be volatile and should be used with caution. All ad counts represent deduplicated figures.

What is the program-to-occupation crosswalk?

Training programs are classified according to the Classification of Instructional Programs (CIP codes). For relating training programs, this report uses a modified version of the CIP to SOC crosswalk from the National Center for Education Statistics (NCES). While this is a very helpful crosswalk for estimating occupation production from training program awards data, the crosswalk is neither perfect nor comprehensive. Indeed, it is hard to imagine such a crosswalk being perfect since many training program graduates for one reason or another do not end up employed in occupations that are most related to the training program from which they graduated. Therefore, the education program analyses should be considered in this light.

As an example of the many scenarios that may unfold, consider a journalism degree that crosswalks into three occupations: editors, writers, and postsecondary communications teachers. Graduates with a journalism degree may get a job in one of these occupations—and that may be the most-likely scenario—but a good number of these graduates may get a job in a different occupation altogether (the job may be somewhat related, such as a reporter, or the job may be totally unrelated, such as a real estate agent). Furthermore, a graduate may stay in school or go back to school for a degree that will lead to other occupation possibilities. Still another possibility includes the graduate not entering the labor market (maybe being unemployed, being a non-participant, or moving to another region).

What is separation demand?

Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand does not include all turnover—it does not include when workers stay in the same occupation but switch employers. The total projected demand for an occupation is the sum of the separation demand and the growth

demand (which is the increase or decrease of jobs in an occupation expected due to expansion or contraction of the overall number of jobs in that occupation).

What is a location quotient?

A location quotient (LQ) is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an occupation (or industry) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is NAICS?

The North American Industry Classification System (NAICS) is used to classify business establishments according to the type of economic activity. The NAICS Code comprises six levels, from the “all industry” level to the 6-digit level. The first two digits define the top level category, known as the “sector,” which is the level examined in this report.

About This Report

This report and all data herein were produced by JobsEQ®, a product of Chmura Economics & Analytics. The information contained herein was obtained from sources we believe to be reliable. However, we cannot guarantee its accuracy and completeness.