

## Labor Market Gap Analysis

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This chapter of the Educational Master plan analyzes the regional labor market in relation to the college's programs. The goal of the analysis is to identify the high-wage, high-skill jobs in the region and determine any gaps between these occupations and the college's educational programs. The analysis might reveal some programs that might be considered for expansion, addition or restructuring. The analysis is not the final word on the subject. Rather, it provides some data from which more discussion and research should be conducted.

### Defining the Parameters

#### Geography

Students completing their program of study at the College might find a job in another part of the Bay Area. With public transportation and a geographically compact area, they might be willing to commute for a job. Others might be willing to move to a different part of the region for a good job. For these reasons, a larger target region was used in this analysis. The region chosen is a 12-county area including the following counties:

- Alameda
- Contra Costa
- Marin
- Monterey
- Napa
- San Benito
- San Francisco
- San Mateo
- Santa Clara
- Santa Cruz
- Solano
- Sonoma

### Industry Employment

The following tables show total industry employment data for the 12 County Bay Area region. The data is shown by Industry sector.

Data for all businesses in the 12 county Bay Area - 2014	
Total Businesses:	655,669
Total Employees:	3,901,715
Total Residential Population:	8,104,715
Employee/Residential Population Ratio:	0.48:1

By Industry Sector	Businesses		Employees	
	Number	Percent	Number	Percent
Agriculture & Mining	13,024	2.0%	72,377	1.9%
Construction	45,291	6.9%	199,898	5.1%
Manufacturing	22,513	3.4%	387,315	9.9%
Transportation	13,730	2.1%	104,503	2.7%
Communication	5,588	0.9%	65,604	1.7%
Utility	1,367	0.2%	21,291	0.5%
Wholesale Trade	25,449	3.9%	161,574	4.1%
Retail Trade Summary	75,855	11.6%	650,787	16.7%
Home Improvement	2,841	0.4%	25,375	0.7%
General Merchandise Stores	989	0.2%	140,675	3.6%
Food Stores	8,419	1.3%	88,518	2.3%
Auto Dealers, Gas Stations, Auto Aftermarket	5,180	0.8%	39,239	1.0%
Apparel & Accessory Stores	6,242	1.0%	40,231	1.0%
Furniture & Home Furnishings	7,301	1.1%	34,413	0.9%
Eating & Drinking Places	23,106	3.5%	183,022	4.7%
Miscellaneous Retail	21,777	3.3%	99,314	2.5%
Finance, Insurance, Real Estate Summary	53,606	8.2%	277,664	7.1%
Banks, Savings & Lending Institutions	5,654	0.9%	54,868	1.4%
Securities Brokers	3,357	0.5%	26,156	0.7%
Insurance Carriers & Agents	6,426	1.0%	50,256	1.3%
Real Estate, Holding, Other Investment Offices	38,169	5.8%	146,384	3.8%
Services Summary	299,956	45.7%	1,665,775	42.7%
Hotels & Lodging	3,012	0.5%	55,795	1.4%
Automotive Services	9,766	1.5%	43,465	1.1%
Motion Pictures & Amusements	14,155	2.2%	70,467	1.8%
Health Services	34,190	5.2%	260,104	6.7%
Legal Services	10,872	1.7%	51,738	1.3%
Education Institutions & Libraries	11,195	1.7%	233,385	6.0%
Other Services	216,766	33.1%	950,821	24.4%
Government	4,836	0.7%	293,210	7.5%
Unclassified Establishments	94,454	14.4%	1,717	0.0%
Totals	655,669	100.0%	3,901,715	100.0%

Source: Copyright 2014 Dun & Bradstreet, Inc. All rights reserved. Esri Total Residential Population forecasts for 2014.

## Target Occupations

In order to evaluate occupations in the Region, it is important to define, “high-wage, high-skill” jobs. These are jobs for which a community college can train prospective employees.

The following occupation data was obtained from the California Community Colleges Economic and Workforce Development, Centers of Excellence website<sup>1</sup>. The labor market data included all occupations from the 12 County Bay Area region. The first task was to hone the list down by setting certain filters. These filters include three variables: annual openings, median hourly wage and typically required education level.

For the 12-county region, the “target occupations” are those that meet the following criteria.

- Annual openings  $\geq 75$
- Median hourly wage  $\geq \$20.00$
- Typically required education level  $\leq$  Associate’s degree<sup>2</sup>

Following is the list of target these 106 occupations. They are organized by Education Level.

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly <sup>3</sup>	Median Hourly	Education Level
Web Developers	15-1134	8,083	9,384	577	\$20.95	\$35.06	Associate's degree
Computer Network Support Specialists	15-1152	8,028	8,649	347	\$23.08	\$38.36	Associate's degree
Architectural & Civil Drafters	17-3011	3,525	3,566	83	\$18.79	\$29.06	Associate's degree
Electrical & Electronics Engineering Technicians	17-3023	7,124	7,238	216	\$18.50	\$28.64	Associate's degree
Chemical Technicians	19-4031	1,705	1,810	88	\$15.09	\$24.04	Associate's degree
Environmental Science & Protection Technicians, Including Health	19-4091	970	1,071	75	\$16.73	\$25.16	Associate's degree
Life, Physical & Social Science Technicians, All Other	19-4099	2,380	2,518	145	\$15.57	\$22.49	Associate's degree
Paralegals & Legal Assistants	23-2011	8,489	8,688	217	\$18.91	\$30.15	Associate's degree

<sup>1</sup> Downloaded from the California Community Colleges Economic and Workforce Development, Centers of Excellence: <http://www.coeccc.net/supply-demand/index.asp> - on April 5, 2016

<sup>2</sup> Occupations requiring “Less than High School Diploma” and those requiring “High School Diploma or Equivalent” are included in the data. Though these jobs do not typically require college classes, there are likely many individuals who may have a High School Diploma who still lack some necessary skills.

<sup>3</sup> This refers to the hourly wage for the lowest one-tenth of the wages paid in each occupation. This is provided as it might be a closer estimate for an entry level wage in the occupation.

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly <sup>3</sup>	Median Hourly	Education Level
Respiratory Therapists	29-1126	3,185	3,233	76	\$30.34	\$40.87	Associate's degree
Registered Nurses	29-1141	64,515	67,754	2,442	\$34.40	\$57.04	Associate's degree
Medical & Clinical Laboratory Technicians	29-2012	3,748	4,131	233	\$17.69	\$24.54	Associate's degree
Dental Hygienists	29-2021	5,742	6,110	279	\$35.39	\$50.39	Associate's degree
Radiologic Technologists	29-2034	3,416	3,648	130	\$26.07	\$40.91	Associate's degree
Library Technicians	25-4031	3,732	4,262	402	\$17.29	\$23.16	Postsecondary non-degree award
Audio & Video Equipment Technicians	27-4011	2,572	2,608	93	\$14.75	\$21.77	Postsecondary non-degree award
Surgical Technologists	29-2055	2,526	2,746	102	\$21.13	\$29.60	Postsecondary non-degree award
Licensed Practical & Licensed Vocational Nurses	29-2061	12,509	13,708	730	\$22.41	\$27.82	Postsecondary non-degree award
Medical Records & Health Information Technicians	29-2071	3,701	3,996	202	\$14.42	\$22.18	Postsecondary non-degree award
Dental Assistants	31-9091	10,508	10,946	380	\$12.61	\$20.26	Postsecondary non-degree award
Phlebotomists	31-9097	1,692	1,808	79	\$14.66	\$20.96	Postsecondary non-degree award
Firefighters	33-2011	7,007	7,377	323	\$28.21	\$39.16	Postsecondary non-degree award
Telecommunications Equipment Installers & Repairers, Except Line Installers	49-2022	6,625	6,380	147	\$18.08	\$30.87	Postsecondary non-degree award
Aircraft Mechanics & Service Technicians	49-3011	2,417	2,593	137	\$22.00	\$31.62	Postsecondary non-degree award
Heating, Air Conditioning & Refrigeration Mechanics & Installers	49-9021	5,910	6,656	420	\$15.03	\$25.26	Postsecondary non-degree award
First-Line Supervisors of Production & Operating Workers	51-1011	10,911	11,145	305	\$16.82	\$28.95	Postsecondary non-degree award
Heavy & Tractor-Trailer Truck Drivers	53-3032	23,705	25,313	992	\$13.53	\$20.15	Postsecondary non-degree award
Computer User Support Specialists	15-1151	23,093	25,896	1,333	\$17.00	\$29.76	Some college, no degree
Transportation, Storage & Distribution Managers	11-3071	2,653	2,761	101	\$28.33	\$45.27	HS diploma or equivalent
Farmers, Ranchers & Other Agricultural Managers	11-9013	6,692	6,138	129	\$15.24	\$25.93	HS diploma or equivalent
Food Service Managers	11-9051	11,051	11,374	395	\$15.25	\$20.89	HS diploma or equivalent
Property, Real Estate & Community Association Managers	11-9141	10,460	10,572	342	\$15.25	\$31.53	HS diploma or equivalent
Managers, All Other	11-9199	22,055	22,794	775	\$24.83	\$41.26	HS diploma or equivalent
Wholesale & Retail Buyers, Except Farm Products	13-1022	4,109	4,241	165	\$15.63	\$24.45	HS diploma or equivalent
Purchasing Agents, Except Wholesale, Retail & Farm Products	13-1023	8,846	9,188	285	\$22.22	\$34.59	HS diploma or equivalent
Claims Adjusters, Examiners & Investigators	13-1031	6,201	5,894	147	\$21.26	\$34.46	HS diploma or equivalent
Tax Preparers	13-2082	2,709	2,811	102	\$18.71	\$26.01	HS diploma or equivalent
Community Health Workers	21-1094	1,755	1,922	105	\$13.64	\$21.49	HS diploma or equivalent
Musicians & Singers	27-2042	5,663	5,507	190	\$12.22	\$20.05	HS diploma or equivalent
Pharmacy Technicians	29-2052	6,259	6,508	154	\$15.13	\$21.19	HS diploma or equivalent
Health Technologists & Technicians, All Other	29-2099	3,356	3,837	197	\$19.40	\$26.61	HS diploma or equivalent

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly <sup>3</sup>	Median Hourly	Education Level
Healthcare Support Workers, All Other	31-9099	2,937	3,059	105	\$14.39	\$21.38	HS diploma or equivalent
First-Line Supervisors of Protective Service Workers, All Other	33-1099	1,625	1,773	90	\$15.79	\$25.05	HS diploma or equivalent
Correctional Officers & Jailers	33-3012	5,275	5,419	213	\$24.18	\$36.48	HS diploma or equivalent
Police & Sheriff's Patrol Officers	33-3051	16,994	17,666	774	\$35.12	\$44.73	HS diploma or equivalent
Protective Service Workers, All Other	33-9099	3,005	3,151	262	\$11.69	\$20.48	HS diploma or equivalent
Chefs & Head Cooks	35-1011	3,594	3,833	149	\$13.62	\$22.65	HS diploma or equivalent
First-Line Supervisors of Housekeeping & Janitorial Workers	37-1011	5,239	5,615	267	\$14.12	\$20.75	HS diploma or equivalent
First-Line Supervisors of Landscaping, Lawn Service & Groundskeeping Workers	37-1012	4,150	4,337	119	\$14.38	\$21.37	HS diploma or equivalent
Fitness Trainers & Aerobics Instructors	39-9031	8,825	9,719	434	\$11.98	\$26.32	HS diploma or equivalent
First-Line Supervisors of Non-Retail Sales Workers	41-1012	9,368	9,483	258	\$18.77	\$32.56	HS diploma or equivalent
Advertising Sales Agents	41-3011	5,349	6,022	418	\$16.02	\$26.87	HS diploma or equivalent
Insurance Sales Agents	41-3021	14,703	15,387	633	\$16.26	\$29.48	HS diploma or equivalent
Sales Representatives, Services, All Other	41-3099	31,760	34,225	1,761	\$15.92	\$31.75	HS diploma or equivalent
Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	41-4012	28,182	29,999	1,287	\$14.73	\$28.78	HS diploma or equivalent
First-Line Supervisors of Office & Administrative Support Workers	43-1011	38,285	40,182	1,593	\$18.74	\$28.98	HS diploma or equivalent
Bill & Account Collectors	43-3011	6,916	7,347	363	\$14.84	\$21.10	HS diploma or equivalent
Billing & Posting Clerks	43-3021	11,614	12,452	507	\$13.96	\$21.16	HS diploma or equivalent
Bookkeeping, Accounting & Auditing Clerks	43-3031	45,958	48,739	1,386	\$14.28	\$21.81	HS diploma or equivalent
Payroll & Timekeeping Clerks	43-3051	5,702	6,048	248	\$15.40	\$23.47	HS diploma or equivalent
Procurement Clerks	43-3061	1,670	1,738	85	\$15.18	\$22.71	HS diploma or equivalent
Eligibility Interviewers, Government Programs	43-4061	3,034	3,141	99	\$21.15	\$26.47	HS diploma or equivalent
Interviewers, Except Eligibility & Loan	43-4111	6,068	6,299	203	\$13.70	\$20.79	HS diploma or equivalent
Loan Interviewers & Clerks	43-4131	4,231	4,314	95	\$12.59	\$21.43	HS diploma or equivalent
Human Resources Assistants, Except Payroll & Timekeeping	43-4161	3,958	4,106	154	\$15.20	\$23.35	HS diploma or equivalent
Information & Record Clerks, All Other	43-4199	4,910	4,980	140	\$13.87	\$21.41	HS diploma or equivalent
Cargo & Freight Agents	43-5011	1,821	1,879	87	\$16.08	\$23.70	HS diploma or equivalent
Police, Fire & Ambulance Dispatchers	43-5031	1,993	2,089	92	\$21.66	\$33.43	HS diploma or equivalent
Dispatchers, Except Police, Fire & Ambulance	43-5032	4,509	4,833	246	\$12.57	\$20.55	HS diploma or equivalent
Postal Service Mail Carriers	43-5052	7,593	7,096	258	\$25.23	\$27.15	HS diploma or equivalent
Production, Planning & Expediting Clerks	43-5061	9,251	9,577	356	\$15.70	\$25.66	HS diploma or equivalent
Executive Secretaries & Executive Administrative Assistants	43-6011	32,848	33,235	572	\$18.45	\$29.05	HS diploma or equivalent

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly <sup>3</sup>	Median Hourly	Education Level
Legal Secretaries	43-6012	7,615	7,249	89	\$16.90	\$29.47	HS diploma or equivalent
Insurance Claims & Policy Processing Clerks	43-9041	5,230	5,107	162	\$13.67	\$21.07	HS diploma or equivalent
First-Line Supervisors of Farming, Fishing & Forestry Workers	45-1011	2,820	2,890	94	\$14.73	\$22.43	HS diploma or equivalent
First-Line Supervisors of Construction Trades & Extraction Workers	47-1011	13,365	13,966	415	\$21.53	\$33.00	HS diploma or equivalent
Carpenters	47-2031	28,763	30,463	1,023	\$15.62	\$24.82	HS diploma or equivalent
Operating Engineers & Other Construction Equipment Operators	47-2073	5,175	5,257	215	\$24.98	\$32.38	HS diploma or equivalent
Electricians	47-2111	12,865	13,483	513	\$19.03	\$32.22	HS diploma or equivalent
Glaziers	47-2121	1,519	1,654	90	\$13.61	\$22.53	HS diploma or equivalent
Plumbers, Pipefitters & Steamfitters	47-2152	9,642	10,799	528	\$17.24	\$31.01	HS diploma or equivalent
Sheet Metal Workers	47-2211	3,724	4,032	182	\$15.51	\$29.70	HS diploma or equivalent
Structural Iron & Steel Workers	47-2221	1,165	1,263	78	\$17.66	\$32.65	HS diploma or equivalent
Construction & Building Inspectors	47-4011	2,943	3,093	128	\$22.12	\$35.18	HS diploma or equivalent
First-Line Supervisors of Mechanics, Installers & Repairers	49-1011	8,595	8,956	361	\$21.67	\$36.45	HS diploma or equivalent
Security & Fire Alarm Systems Installers	49-2098	2,175	2,325	106	\$15.99	\$23.37	HS diploma or equivalent
Automotive Body & Related Repairers	49-3021	3,143	3,176	92	\$13.81	\$23.07	HS diploma or equivalent
Automotive Service Technicians & Mechanics	49-3023	15,250	15,538	551	\$12.64	\$21.49	HS diploma or equivalent
Bus & Truck Mechanics & Diesel Engine Specialists	49-3031	3,639	3,820	147	\$16.50	\$25.69	HS diploma or equivalent
Industrial Machinery Mechanics	49-9041	4,274	4,625	254	\$17.72	\$28.12	HS diploma or equivalent
Telecommunications Line Installers & Repairers	49-9052	4,014	3,858	141	\$19.41	\$30.50	HS diploma or equivalent
Maintenance & Repair Workers, General	49-9071	29,454	31,137	1,160	\$12.28	\$21.51	HS diploma or equivalent
Installation, Maintenance & Repair Workers, All Other	49-9099	4,532	4,729	148	\$13.39	\$21.59	HS diploma or equivalent
Machinists	51-4041	6,433	6,708	284	\$14.00	\$23.15	HS diploma or equivalent
Welders, Cutters, Solderers & Brazers	51-4121	4,733	4,890	192	\$13.15	\$20.05	HS diploma or equivalent
Water & Wastewater Treatment Plant & System Operators	51-8031	2,320	2,457	132	\$24.46	\$34.04	HS diploma or equivalent
First-Line Supervisors of Helpers, Laborers & Material Movers, Hand	53-1021	3,920	4,099	174	\$14.17	\$23.00	HS diploma or equivalent
First-Line Supervisors of Transportation & Material-Moving Machine & Vehicle Operators	53-1031	3,961	4,215	201	\$17.96	\$29.33	HS diploma or equivalent
Bus Drivers, Transit & Intercity	53-3021	7,148	7,535	269	\$13.79	\$23.84	HS diploma or equivalent
Motor Vehicle Operators, All Other	53-3099	2,726	2,829	116	\$9.93	\$22.06	HS diploma or equivalent
Business Operations Specialists, All Other	13-1199	36,796	38,806	1,196	\$19.72	\$36.85	HS diploma or equivalents

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly <sup>3</sup>	Median Hourly	Education Level
Cement Masons & Concrete Finishers	47-2051	3,371	3,858	231	\$16.06	\$25.02	Less than HS
Construction Laborers	47-2061	31,805	33,623	1,437	\$11.97	\$20.34	Less than HS
Drywall & Ceiling Tile Installers	47-2081	4,736	4,866	175	\$15.43	\$24.88	Less than HS
Painters, Construction & Maintenance	47-2141	10,450	11,266	497	\$12.98	\$20.16	Less than HS
Roofers	47-2181	5,250	5,124	188	\$14.05	\$21.96	Less than HS
Refuse & Recyclable Material Collectors	53-7081	3,655	3,873	185	\$11.18	\$23.01	Less than HS

## Gap Analysis

This section of the Labor Market Analysis examines the gaps between the programs offered at the College and the target occupations. This includes target occupations for which the College does not currently offer degrees and/or certificates.

### Occupation Analysis

The following table shows the occupations from the list above, for which the College currently provides some level of training/qualification. For some occupations, the College offers a relevant degree (AS or AA). For other of the target occupations, the College offers a relevant certificate. And for others, the College offers some relevant courses.

This data can be used by the College to consider evaluating various programs offered to students. All of these occupations have been identified in the target occupation list. This means that they pay a good wage, have a significant number of annual openings, and typically require an Associate's Degree or less. The occupations below for which the College offers courses but not certificates or degrees should be examined for possible expansion. There may be some cases where the College would only need to add a small number of courses to offer a certificate. The occupations highlighted in orange are those typically requiring Associate's Degrees.

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly	Median Hourly	Education Level
<b>Degree and Certificate Offered</b>							
Radiologic Technologists	29-2034	3,416	3,648	130	\$26.07	\$40.91	Associate's degree
Property, Real Estate & Community Association Managers	11-9141	10,460	10,572	342	\$15.25	\$31.53	HS diploma or equivalent
Life, Physical & Social Science Technicians, All Other	19-4099	2,380	2,518	145	\$15.57	\$22.49	Associate's degree
First-Line Supervisors of Office & Administrative Support Workers	43-1011	38,285	40,182	1,593	\$18.74	\$28.98	HS diploma or equivalent
Correctional Officers & Jailers	33-3012	5,275	5,419	213	\$24.18	\$36.48	HS diploma or equivalent
Computer Network Support Specialists	15-1152	8,028	8,649	347	\$23.08	\$38.36	Associate's degree
Paralegals & Legal Assistants	23-2011	8,489	8,688	217	\$18.91	\$30.15	Associate's degree
First-Line Supervisors of Landscaping, Lawn Service & Groundskeeping Workers	37-1012	4,150	4,337	119	\$14.38	\$21.37	HS diploma or equivalent
Computer User Support Specialists	15-1151	23,093	25,896	1,333	\$17.00	\$29.76	Some college, no degree
Protective Service Workers, All Other	33-9099	3,005	3,151	262	\$11.69	\$20.48	HS diploma or equivalent
Health Technologists & Technicians, All Other	29-2099	3,356	3,837	197	\$19.40	\$26.61	HS diploma or equivalent
Police & Sheriff's Patrol Officers	33-3051	16,994	17,666	774	\$35.12	\$44.73	HS diploma or equivalent
Registered Nurses	29-1141	64,515	67,754	2,442	\$34.40	\$57.04	Associate's degree
<b>Certificate Offered</b>							
Environmental Science & Protection Technicians, Including Health	19-4091	970	1,071	75	\$16.73	\$25.16	Associate's degree
Medical & Clinical Laboratory Technicians	29-2012	3,748	4,131	233	\$17.69	\$24.54	Associate's degree
Healthcare Support Workers, All Other	31-9099	2,937	3,059	105	\$14.39	\$21.38	HS diploma or equivalent
Fitness Trainers & Aerobics Instructors	39-9031	8,825	9,719	434	\$11.98	\$26.32	HS diploma or equivalent
Medical Records & Health Information Technicians	29-2071	3,701	3,996	202	\$14.42	\$22.18	Postsecondary non-degree award
<b>Courses Offered</b>							
Business Operations Specialists, All Other	13-1199	36,796	38,806	1,196	\$19.72	\$36.85	HS diploma or equivalent
Bookkeeping, Accounting & Auditing Clerks	43-3031	45,958	48,739	1,386	\$14.28	\$21.81	HS diploma or equivalent
Executive Secretaries & Executive Administrative Assistants	43-6011	32,848	33,235	572	\$18.45	\$29.05	HS diploma or equivalent
Firefighters	33-2011	7,007	7,377	323	\$28.21	\$39.16	Postsecondary non-degree award
Dispatchers, Except Police, Fire & Ambulance	43-5032	4,509	4,833	246	\$12.57	\$20.55	HS diploma or equivalent
Web Developers	15-1134	8,083	9,384	577	\$20.95	\$35.06	Associate's degree
Police, Fire & Ambulance Dispatchers	43-5031	1,993	2,089	92	\$21.66	\$33.43	HS diploma or equivalent



The following table shows the target occupations for which the College does not offer degrees, certificates or directly relevant courses. They are organized by typical education level for the occupation.

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly	Median Hourly	Education Level
Architectural & Civil Drafters	17-3011	3,525	3,566	83	\$18.79	\$29.06	Associate's degree
Electrical & Electronics Engineering Technicians	17-3023	7,124	7,238	216	\$18.50	\$28.64	Associate's degree
Chemical Technicians	19-4031	1,705	1,810	88	\$15.09	\$24.04	Associate's degree
Respiratory Therapists	29-1126	3,185	3,233	76	\$30.34	\$40.87	Associate's degree
Dental Hygienists	29-2021	5,742	6,110	279	\$35.39	\$50.39	Associate's degree
Library Technicians	25-4031	3,732	4,262	402	\$17.29	\$23.16	Postsecondary non-degree award
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Dental Assistants	31-9091	10,508	10,946	380	\$12.61	\$20.26	Postsecondary non-degree award
Phlebotomists	31-9097	1,692	1,808	79	\$14.66	\$20.96	Postsecondary non-degree award
Telecommunications Equipment Installers & Repairers, Except Line Installers	49-2022	6,625	6,380	147	\$18.08	\$30.87	Postsecondary non-degree award
Aircraft Mechanics & Service Technicians	49-3011	2,417	2,593	137	\$22.00	\$31.62	Postsecondary non-degree award
Heating, Air Conditioning & Refrigeration Mechanics & Installers	49-9021	5,910	6,656	420	\$15.03	\$25.26	Postsecondary non-degree award
First-Line Supervisors of Production & Operating Workers	51-1011	10,911	11,145	305	\$16.82	\$28.95	Postsecondary non-degree award
Heavy & Tractor-Trailer Truck Drivers	53-3032	23,705	25,313	992	\$13.53	\$20.15	Postsecondary non-degree award
Transportation, Storage & Distribution Managers	11-3071	2,653	2,761	101	\$28.33	\$45.27	HS diploma or equivalent
Farmers, Ranchers & Other Agricultural Managers	11-9013	6,692	6,138	129	\$15.24	\$25.93	HS diploma or equivalent
Food Service Managers	11-9051	11,051	11,374	395	\$15.25	\$20.89	HS diploma or equivalent
Managers, All Other	11-9199	22,055	22,794	775	\$24.83	\$41.26	HS diploma or equivalent
Wholesale & Retail Buyers, Except Farm Products	13-1022	4,109	4,241	165	\$15.63	\$24.45	HS diploma or equivalent
Purchasing Agents, Except Wholesale, Retail & Farm Products	13-1023	8,846	9,188	285	\$22.22	\$34.59	HS diploma or equivalent
Claims Adjusters, Examiners & Investigators	13-1031	6,201	5,894	147	\$21.26	\$34.46	HS diploma or equivalent
Tax Preparers	13-2082	2,709	2,811	102	\$18.71	\$26.01	HS diploma or equivalent
Community Health Workers	21-1094	1,755	1,922	105	\$13.64	\$21.49	HS diploma or equivalent
Musicians & Singers	27-2042	5,663	5,507	190	\$12.22	\$20.05	HS diploma or equivalent
Pharmacy Technicians	29-2052	6,259	6,508	154	\$15.13	\$21.19	HS diploma or equivalent
First-Line Supervisors of Protective Service Workers, All Other	33-1099	1,625	1,773	90	\$15.79	\$25.05	HS diploma or equivalent

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly	Median Hourly	Education Level
Chefs & Head Cooks	35-1011	3,594	3,833	149	\$13.62	\$22.65	HS diploma or equivalent
First-Line Supervisors of Housekeeping & Janitorial Workers	37-1011	5,239	5,615	267	\$14.12	\$20.75	HS diploma or equivalent
First-Line Supervisors of Non-Retail Sales Workers	41-1012	9,368	9,483	258	\$18.77	\$32.56	HS diploma or equivalent
Advertising Sales Agents	41-3011	5,349	6,022	418	\$16.02	\$26.87	HS diploma or equivalent
Insurance Sales Agents	41-3021	14,703	15,387	633	\$16.26	\$29.48	HS diploma or equivalent
Sales Representatives, Services, All Other	41-3099	31,760	34,225	1,761	\$15.92	\$31.75	HS diploma or equivalent
Sales Representatives, Wholesale & Manufacturing, Except Technical & Scientific Products	41-4012	28,182	29,999	1,287	\$14.73	\$28.78	HS diploma or equivalent
Bill & Account Collectors	43-3011	6,916	7,347	363	\$14.84	\$21.10	HS diploma or equivalent
Billing & Posting Clerks	43-3021	11,614	12,452	507	\$13.96	\$21.16	HS diploma or equivalent
Payroll & Timekeeping Clerks	43-3051	5,702	6,048	248	\$15.40	\$23.47	HS diploma or equivalent
Procurement Clerks	43-3061	1,670	1,738	85	\$15.18	\$22.71	HS diploma or equivalent
Eligibility Interviewers, Government Programs	43-4061	3,034	3,141	99	\$21.15	\$26.47	HS diploma or equivalent
Interviewers, Except Eligibility & Loan	43-4111	6,068	6,299	203	\$13.70	\$20.79	HS diploma or equivalent
Loan Interviewers & Clerks	43-4131	4,231	4,314	95	\$12.59	\$21.43	HS diploma or equivalent
Human Resources Assistants, Except Payroll & Timekeeping	43-4161	3,958	4,106	154	\$15.20	\$23.35	HS diploma or equivalent
Information & Record Clerks, All Other	43-4199	4,910	4,980	140	\$13.87	\$21.41	HS diploma or equivalent
Cargo & Freight Agents	43-5011	1,821	1,879	87	\$16.08	\$23.70	HS diploma or equivalent
Postal Service Mail Carriers	43-5052	7,593	7,096	258	\$25.23	\$27.15	HS diploma or equivalent
Production, Planning & Expediting Clerks	43-5061	9,251	9,577	356	\$15.70	\$25.66	HS diploma or equivalent
Legal Secretaries	43-6012	7,615	7,249	89	\$16.90	\$29.47	HS diploma or equivalent
Insurance Claims & Policy Processing Clerks	43-9041	5,230	5,107	162	\$13.67	\$21.07	HS diploma or equivalent
First-Line Supervisors of Farming, Fishing & Forestry Workers	45-1011	2,820	2,890	94	\$14.73	\$22.43	HS diploma or equivalent
First-Line Supervisors of Construction Trades & Extraction Workers	47-1011	13,365	13,966	415	\$21.53	\$33.00	HS diploma or equivalent
Carpenters	47-2031	28,763	30,463	1,023	\$15.62	\$24.82	HS diploma or equivalent
Operating Engineers & Other Construction Equipment Operators	47-2073	5,175	5,257	215	\$24.98	\$32.38	HS diploma or equivalent
Electricians	47-2111	12,865	13,483	513	\$19.03	\$32.22	HS diploma or equivalent
Glaziers	47-2121	1,519	1,654	90	\$13.61	\$22.53	HS diploma or equivalent
Plumbers, Pipefitters & Steamfitters	47-2152	9,642	10,799	528	\$17.24	\$31.01	HS diploma or equivalent
Sheet Metal Workers	47-2211	3,724	4,032	182	\$15.51	\$29.70	HS diploma or equivalent
Structural Iron & Steel Workers	47-2221	1,165	1,263	78	\$17.66	\$32.65	HS diploma or equivalent
Construction & Building Inspectors	47-4011	2,943	3,093	128	\$22.12	\$35.18	HS diploma or equivalent
First-Line Supervisors of Mechanics, Installers & Repairers	49-1011	8,595	8,956	361	\$21.67	\$36.45	HS diploma or equivalent

Description	SOC	2013 Jobs	2016 Jobs	Annual Openings	10th Percentile Hourly	Median Hourly	Education Level
Security & Fire Alarm Systems Installers	49-2098	2,175	2,325	106	\$15.99	\$23.37	HS diploma or equivalent
Automotive Body & Related Repairers	49-3021	3,143	3,176	92	\$13.81	\$23.07	HS diploma or equivalent
Automotive Service Technicians & Mechanics	49-3023	15,250	15,538	551	\$12.64	\$21.49	HS diploma or equivalent
Bus & Truck Mechanics & Diesel Engine Specialists	49-3031	3,639	3,820	147	\$16.50	\$25.69	HS diploma or equivalent
Industrial Machinery Mechanics	49-9041	4,274	4,625	254	\$17.72	\$28.12	HS diploma or equivalent
Telecommunications Line Installers & Repairers	49-9052	4,014	3,858	141	\$19.41	\$30.50	HS diploma or equivalent
Maintenance & Repair Workers, General	49-9071	29,454	31,137	1,160	\$12.28	\$21.51	HS diploma or equivalent
Installation, Maintenance & Repair Workers, All Other	49-9099	4,532	4,729	148	\$13.39	\$21.59	HS diploma or equivalent
Machinists	51-4041	6,433	6,708	284	\$14.00	\$23.15	HS diploma or equivalent
Welders, Cutters, Solderers & Brazers	51-4121	4,733	4,890	192	\$13.15	\$20.05	HS diploma or equivalent
Water & Wastewater Treatment Plant & System Operators	51-8031	2,320	2,457	132	\$24.46	\$34.04	HS diploma or equivalent
First-Line Supervisors of Helpers, Laborers & Material Movers, Hand	53-1021	3,920	4,099	174	\$14.17	\$23.00	HS diploma or equivalent
First-Line Supervisors of Transportation & Material-Moving Machine & Vehicle Operators	53-1031	3,961	4,215	201	\$17.96	\$29.33	HS diploma or equivalent
Bus Drivers, Transit & Intercity	53-3021	7,148	7,535	269	\$13.79	\$23.84	HS diploma or equivalent
Motor Vehicle Operators, All Other	53-3099	2,726	2,829	116	\$9.93	\$22.06	HS diploma or equivalent
Cement Masons & Concrete Finishers	47-2051	3,371	3,858	231	\$16.06	\$25.02	Less than HS
Construction Laborers	47-2061	31,805	33,623	1,437	\$11.97	\$20.34	Less than HS
Drywall & Ceiling Tile Installers	47-2081	4,736	4,866	175	\$15.43	\$24.88	Less than HS
Painters, Construction & Maintenance	47-2141	10,450	11,266	497	\$12.98	\$20.16	Less than HS
Roofers	47-2181	5,250	5,124	188	\$14.05	\$21.96	Less than HS
Refuse & Recyclable Material Collectors	53-7081	3,655	3,873	185	\$11.18	\$23.01	Less than HS

The following occupations are those that meet the “target occupation” criteria, with one difference. These occupations typically require an education level of a Bachelor’s or Master’s Degree. The data is included as a reference for opportunities for transfer students.

Occupation Group	SOC	Description	Annual Openings	10th Percentile Hourly	Median Hourly	Education Level
<b>Community &amp; Social Services</b>						
	21-1012	Educational, Guidance, School & Vocational Counselors	301	\$16.54	\$28.22	Master's degree
	21-1013	Marriage & Family Therapists	188	\$12.27	\$21.31	Master's degree
	21-1022	Healthcare Social Workers	285	\$19.47	\$32.22	Master's degree
	21-1099	Community & Social Service Specialists, All Other	181	\$13.94	\$24.14	Master's degree
<b>Computer &amp; Mathematical</b>						
	15-2041	Statisticians	119	\$28.65	\$46.97	Master's degree
<b>Education, Training &amp; Library</b>						
	25-4021	Librarians	229	\$23.62	\$33.93	Master's degree
	25-9031	Instructional Coordinators	156	\$20.72	\$31.39	Master's degree
<b>Healthcare Practitioners</b>						
	29-1071	Physician Assistants	125	\$35.79	\$50.13	Master's degree
	29-1122	Occupational Therapists	83	\$27.99	\$43.00	Master's degree
	29-1127	Speech-Language Pathologists	101	\$28.85	\$39.05	Master's degree
	29-1171	Nurse Practitioners	136	\$32.60	\$53.18	Master's degree
<b>Life, Physical &amp; Social Science</b>						
	19-3051	Urban & Regional Planners	171	\$28.28	\$39.85	Master's degree
<b>Management</b>						
	11-9032	Education Administrators, Elementary & Secondary School	198	\$35.20	\$49.64	Master's degree
	11-9033	Education Administrators, Postsecondary	179	\$25.66	\$44.63	Master's degree
<b>Architecture &amp; Engineering</b>						
	17-1011	Architects, Except Landscape & Naval	243	\$25.00	\$37.63	Bachelor's degree
	17-2011	Aerospace Engineers	309	\$35.15	\$53.70	Bachelor's degree
	17-2031	Biomedical Engineers	139	\$34.47	\$51.46	Bachelor's degree
	17-2051	Civil Engineers	418	\$31.70	\$46.90	Bachelor's degree
	17-2061	Computer Hardware Engineers	481	\$38.98	\$60.82	Bachelor's degree
	17-2071	Electrical Engineers	279	\$35.02	\$52.70	Bachelor's degree
	17-2072	Electronics Engineers, Except Computer	323	\$35.30	\$55.92	Bachelor's degree
	17-2081	Environmental Engineers	104	\$28.37	\$44.60	Bachelor's degree
	17-2112	Industrial Engineers	332	\$32.47	\$48.99	Bachelor's degree
	17-2141	Mechanical Engineers	355	\$30.82	\$47.76	Bachelor's degree
	17-2199	Engineers, All Other	198	\$32.19	\$48.38	Bachelor's degree
<b>Arts, Design, Entertainment, Sports &amp; Media</b>						
	27-1011	Art Directors	124	\$18.69	\$32.12	Bachelor's degree
	27-1014	Multimedia Artists & Animators	151	\$15.55	\$25.12	Bachelor's degree
	27-1024	Graphic Designers	570	\$16.38	\$24.50	Bachelor's degree
	27-1025	Interior Designers	236	\$16.32	\$23.46	Bachelor's degree
	27-2012	Producers & Directors	179	\$17.18	\$32.82	Bachelor's degree
	27-3031	Public Relations Specialists	343	\$18.60	\$33.22	Bachelor's degree
	27-3041	Editors	273	\$15.83	\$24.68	Bachelor's degree
	27-3042	Technical Writers	172	\$27.70	\$44.12	Bachelor's degree
	27-3091	Interpreters & Translators	156	\$15.38	\$22.86	Bachelor's degree

Occupation Group	SOC	Description	Annual Openings	10th Percentile Hourly	Median Hourly	Education Level
<b>Business &amp; Financial</b>						
	13-1041	Compliance Officers	222	\$23.00	\$38.77	Bachelor's degree
	13-1051	Cost Estimators	361	\$19.43	\$34.32	Bachelor's degree
	13-1071	Human Resources Specialists	518	\$20.41	\$34.17	Bachelor's degree
	13-1075	Labor Relations Specialists	102	\$22.54	\$36.60	Bachelor's degree
	13-1081	Logisticians	188	\$26.50	\$39.61	Bachelor's degree
	13-1111	Management Analysts	1,642	\$25.87	\$41.01	Bachelor's degree
	13-1121	Meeting, Convention & Event Planners	191	\$16.77	\$26.82	Bachelor's degree
	13-1131	Fundraisers	122	\$15.23	\$26.28	Bachelor's degree
	13-1141	Compensation, Benefits & Job Analysis Specialists	110	\$24.08	\$34.42	Bachelor's degree
	13-1151	Training & Development Specialists	321	\$19.98	\$36.84	Bachelor's degree
	13-1161	Market Research Analysts & Marketing Specialists	1,436	\$20.80	\$40.66	Bachelor's degree
	13-2011	Accountants & Auditors	2,245	\$23.75	\$35.54	Bachelor's degree
	13-2031	Budget Analysts	159	\$25.99	\$39.69	Bachelor's degree
	13-2051	Financial Analysts	529	\$27.98	\$45.86	Bachelor's degree
	13-2052	Personal Financial Advisors	327	\$19.79	\$37.90	Bachelor's degree
	13-2072	Loan Officers	205	\$22.65	\$36.47	Bachelor's degree
	13-2099	Financial Specialists, All Other	103	\$20.53	\$40.87	Bachelor's degree
<b>Community &amp; Social Services</b>						
	21-1021	Child, Family & School Social Workers	346	\$16.10	\$23.43	Bachelor's degree
	21-1023	Mental Health & Substance Abuse Social Workers	167	\$14.65	\$22.22	Bachelor's degree
	21-1029	Social Workers, All Other	125	\$20.66	\$35.68	Bachelor's degree
	21-1091	Health Educators	124	\$18.02	\$25.75	Bachelor's degree
	21-1092	Probation Officers & Correctional Treatment Specialists	82	\$24.87	\$37.91	Bachelor's degree
	21-2011	Clergy	140	\$13.11	\$22.76	Bachelor's degree
	21-2021	Directors, Religious Activities & Education	117	\$13.14	\$21.84	Bachelor's degree
<b>Computer &amp; Mathematical</b>						
	15-1121	Computer Systems Analysts	1,430	\$27.69	\$44.03	Bachelor's degree
	15-1122	Information Security Analysts	226	\$33.33	\$50.39	Bachelor's degree
	15-1131	Computer Programmers	1,023	\$29.62	\$43.55	Bachelor's degree
	15-1132	Software Developers, Applications	2,591	\$33.88	\$52.98	Bachelor's degree
	15-1133	Software Developers, Systems Software	1,744	\$37.55	\$57.59	Bachelor's degree
	15-1141	Database Administrators	261	\$24.68	\$44.25	Bachelor's degree
	15-1142	Network & Computer Systems Administrators	660	\$26.78	\$43.05	Bachelor's degree
	15-1143	Computer Network Architects	330	\$36.88	\$57.15	Bachelor's degree
	15-1199	Computer Occupations, All Other	327	\$23.21	\$40.99	Bachelor's degree
	15-2031	Operations Research Analysts	171	\$28.00	\$42.31	Bachelor's degree
<b>Education, Training &amp; Library</b>						
	25-2012	Kindergarten Teachers, Except Special Education	188	\$20.13	\$29.86	Bachelor's degree
	25-2021	Elementary School Teachers, Except Special Education	1,149	\$21.87	\$31.37	Bachelor's degree
	25-2022	Middle School Teachers, Except Special & Career/Technical Education	507	\$23.19	\$32.38	Bachelor's degree
	25-2031	Secondary School Teachers, Except Special & Career/Technical	852	\$23.09	\$32.99	Bachelor's degree

Occupation Group	SOC	Description	Annual Openings	10th Percentile Hourly	Median Hourly	Education Level
		Education				
	25-2052	Special Education Teachers, Kindergarten & Elementary School	109	\$20.51	\$28.99	Bachelor's degree
	25-3011	Adult Basic & Secondary Education & Literacy Teachers & Instructors	115	\$19.95	\$30.81	Bachelor's degree
	25-3099	Teachers & Instructors, All Other	555	\$15.78	\$27.17	Bachelor's degree
<b>Healthcare Practitioners</b>						
	29-1031	Dietitians & Nutritionists	97	\$23.78	\$34.21	Bachelor's degree
	29-2011	Medical & Clinical Laboratory Technologists	130	\$25.83	\$40.88	Bachelor's degree
<b>Life, Physical &amp; Social Science</b>						
	19-2031	Chemists	228	\$24.51	\$39.00	Bachelor's degree
	19-2041	Environmental Scientists & Specialists, Including Health	207	\$26.62	\$40.38	Bachelor's degree
	19-4021	Biological Technicians	224	\$15.97	\$26.26	Bachelor's degree
<b>Management</b>						
	11-1011	Chief Executives	360	\$44.24	\$85.29	Bachelor's degree
	11-1021	General & Operations Managers	2,713	\$29.23	\$58.43	Bachelor's degree
	11-2011	Advertising & Promotions Managers	82	\$27.98	\$43.90	Bachelor's degree
	11-2021	Marketing Managers	507	\$42.15	\$72.31	Bachelor's degree
	11-2022	Sales Managers	618	\$30.25	\$64.56	Bachelor's degree
	11-2031	Public Relations & Fundraising Managers	109	\$30.65	\$53.71	Bachelor's degree
	11-3011	Administrative Services Managers	331	\$27.36	\$46.69	Bachelor's degree
	11-3021	Computer & Information Systems Managers	921	\$51.17	\$75.42	Bachelor's degree
	11-3031	Financial Managers	638	\$36.84	\$65.31	Bachelor's degree
	11-3051	Industrial Production Managers	143	\$32.07	\$53.76	Bachelor's degree
	11-3061	Purchasing Managers	88	\$33.99	\$60.37	Bachelor's degree
	11-3121	Human Resources Managers	217	\$35.33	\$60.54	Bachelor's degree
	11-9021	Construction Managers	316	\$25.43	\$37.62	Bachelor's degree
	11-9031	Education Administrators, Preschool & Childcare Center/Program	155	\$16.92	\$23.13	Bachelor's degree
	11-9041	Architectural & Engineering Managers	462	\$50.21	\$77.01	Bachelor's degree
	11-9111	Medical & Health Services Managers	385	\$31.90	\$53.78	Bachelor's degree
	11-9121	Natural Sciences Managers	152	\$49.07	\$80.63	Bachelor's degree
	11-9151	Social & Community Service Managers	339	\$20.06	\$32.46	Bachelor's degree
<b>Sales &amp; Related</b>						
	41-3031	Securities, Commodities & Financial Services Sales Agents	360	\$18.21	\$40.82	Bachelor's degree
	41-4011	Sales Representatives, Wholesale & Manufacturing, Technical & Scientific Products	760	\$22.04	\$44.49	Bachelor's degree
	41-9031	Sales Engineers	205	\$31.82	\$56.72	Bachelor's degree
<b>Transportation &amp; Material Moving</b>						
	53-2011	Airline Pilots, Copilots & Flight Engineers	153	\$41.93	\$58.68	Bachelor's degree