

Program Market Demand

Engineering Technology, General

Emsi Q3 2018 Data Set

September 2018

College of San Mateo



3401 CSM Drive
San Mateo, California 94402
650.358.6880

Parameters

Programs

Code	Description
15.0000	Engineering Technology, General

Regions

Code	Description
6001	Alameda County, CA
6013	Contra Costa County, CA
6075	San Francisco County, CA
6081	San Mateo County, CA
6085	Santa Clara County, CA

Education Levels

Any

Completions Year

2015

Jobs Timeframe

2017 - 2024

Job Postings Timeframe

Sep 2016 - Aug 2018

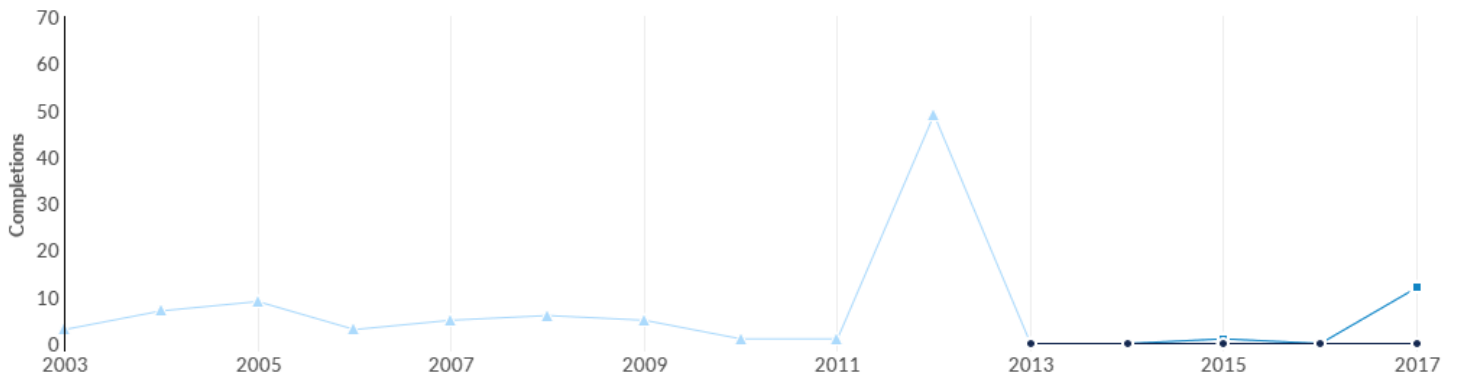
Program Overview



	Completions (2015)	% Completions	Institutions (2015)	% Institutions
● All Programs	1	100%	1	100%
● Distance Offered Programs	0	0%	0	0%
● Non-Distance Offered Programs	1	100%	1	100%

Institution	Completions (2015)	Growth % YOY (2015)	Market Share (2015)
City College of San Francisco	1	Insf. Data	100.0%

Regional Trends



	2013 Completions	2015 Completions	% Change
● Distance Offered Programs	0	0	0.0%
■ Non-Distance Offered Programs	0	1	Insf. Data
▲ All Programs	0	1	Insf. Data

Job Postings vs. Hires

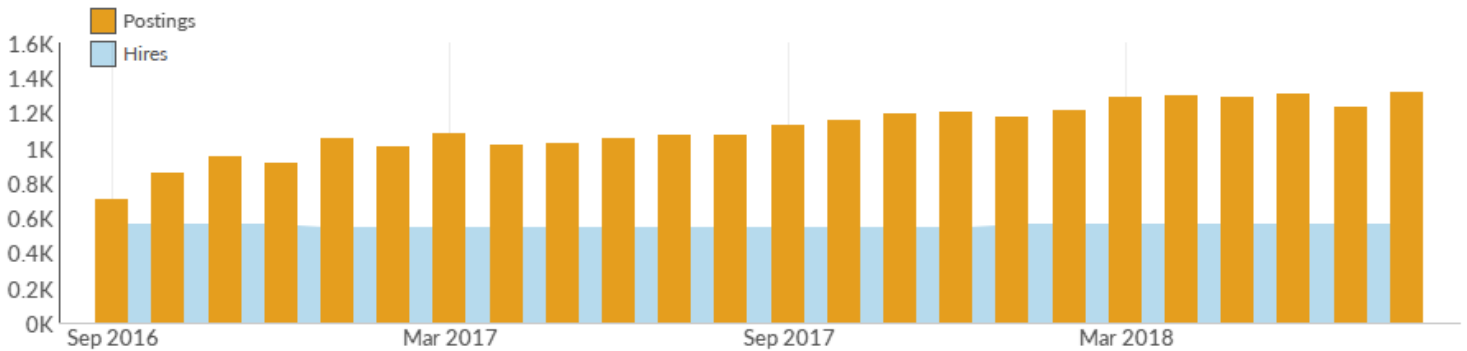
1,109

Avg. Monthly Postings (Sep 2016 - Aug 2018)

555


Avg. Monthly Hires (Sep 2016 - Aug 2018)

In an average month, there were 1,109 unique job postings for 9 Occupations, and 555 actually hired. This means there was approximately 1 hire for every 2 unique job postings for 9 Occupations.



Occupation	Avg Monthly Postings (Sep 2016 - Aug 2018)	Avg Monthly Hires (Sep 2016 - Aug 2018)
Electrical and Electronics Engineering Technicians	504	234
Industrial Engineering Technicians	338	26
Engineering Technicians, Except Drafters, All Other	84	77
Civil Engineering Technicians	56	59
Mechanical Engineering Technicians	50	30
Electro-Mechanical Technicians	35	29
Environmental Engineering Technicians	25	30
Surveying and Mapping Technicians	16	44
Aerospace Engineering and Operations Technicians	2	26

Job Postings Summary

<p>8,923 Unique Postings 46,216 Total Postings</p>	<p>5 : 1 Posting Intensity  Regional Average: 4 : 1</p>	<p>36 days Median Posting Duration Regional Average: 33 days</p>
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There were 46,216 total job postings for your selection from September 2016 to August 2018, of which 8,923 were unique. These numbers give us a Posting Intensity of 5-to-1, meaning that for every 5 postings there is 1 unique job posting.

This is close to the Posting Intensity for all other occupations and companies in the region (4-to-1), indicating that they are putting average effort toward hiring for this position.

Target Occupations

<p>18,537</p> <p>Jobs (2017)</p> <p>58% above National average</p>	<p style="color: green;">+4.5%</p> <p>% Change (2017-2024)</p> <p>Nation: +5.8%</p>	<p>\$30.76/hr</p> <p>Median Hourly Earnings</p> <p>Nation: \$27.13/hr</p>	<p>1,814</p> <p>Annual Openings</p>
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Occupation	2017 Jobs	Annual Openings	Median Hourly Earnings	Growth (2017 - 2024)	Location Quotient (2017)
Electrical and Electronics Engineering Technicians	8,851	792	\$29.98/hr	+0.40%	2.84
Engineering Technicians, Except Drafters, All Other	2,224	223	\$34.64/hr	+8.23%	1.18
Civil Engineering Technicians	1,659	174	\$31.09/hr	+10.13%	0.96
Surveying and Mapping Technicians	1,198	165	\$31.18/hr	+16.11%	0.90
Electro-Mechanical Technicians	1,086	96	\$26.48/hr	-2.85%	3.21
Industrial Engineering Technicians	1,002	107	\$30.52/hr	+11.68%	0.64
Aerospace Engineering and Operations Technicians	952	88	\$34.69/hr	-2.21%	3.31
Mechanical Engineering Technicians	867	95	\$30.34/hr	+13.26%	0.81
Environmental Engineering Technicians	697	72	\$28.75/hr	+10.33%	1.61

Growth

18,537

2017 Jobs

19,366

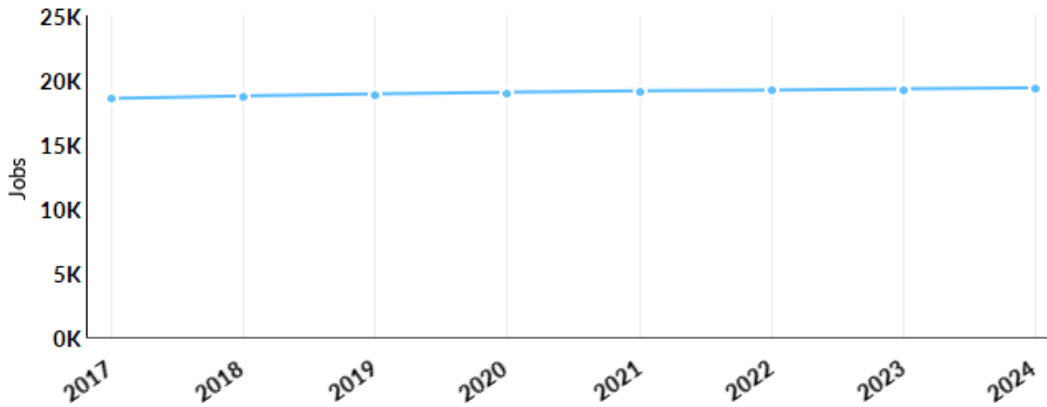
2024 Jobs

829

Change (2017-2024)

4.5%

% Change (2017-2024)



Occupation	2017 Jobs	2024 Jobs	Change	% Change
Aerospace Engineering and Operations Technicians (17-3021)	952	931	-21	-2%
Civil Engineering Technicians (17-3022)	1,659	1,827	168	10%
Electrical and Electronics Engineering Technicians (17-3023)	8,851	8,886	35	0%
Electro-Mechanical Technicians (17-3024)	1,086	1,055	-31	-3%
Environmental Engineering Technicians (17-3025)	697	769	72	10%
Industrial Engineering Technicians (17-3026)	1,002	1,119	117	12%
Mechanical Engineering Technicians (17-3027)	867	982	115	13%
Engineering Technicians, Except Drafters, All Other (17-3029)	2,224	2,407	183	8%
Surveying and Mapping Technicians (17-3031)	1,198	1,391	193	16%

Percentile Earnings

\$24.11/hr

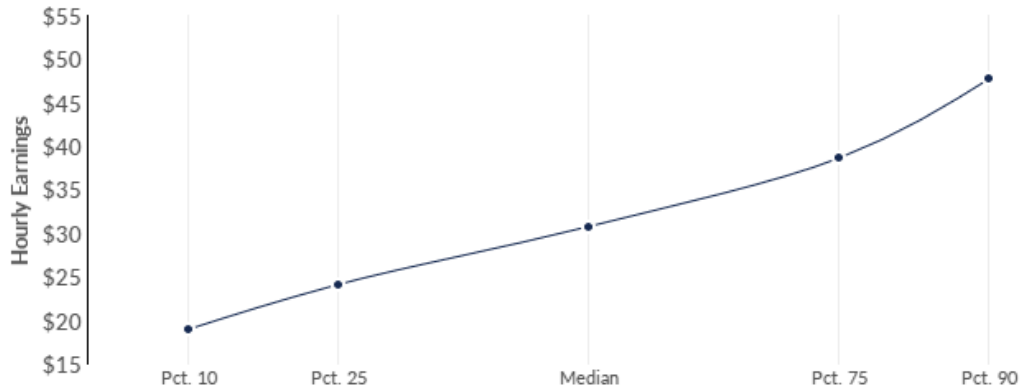
25th Percentile Earnings

\$30.76/hr

Median Earnings

\$38.62/hr

75th Percentile Earnings



Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings
Aerospace Engineering and Operations Technicians (17-3021)	\$29.65	\$34.69	\$38.79
Civil Engineering Technicians (17-3022)	\$26.44	\$31.09	\$37.71
Electrical and Electronics Engineering Technicians (17-3023)	\$22.88	\$29.98	\$37.99
Electro-Mechanical Technicians (17-3024)	\$21.44	\$26.48	\$31.67
Environmental Engineering Technicians (17-3025)	\$22.42	\$28.75	\$37.64
Industrial Engineering Technicians (17-3026)	\$25.21	\$30.52	\$39.63
Mechanical Engineering Technicians (17-3027)	\$24.14	\$30.34	\$37.33
Engineering Technicians, Except Drafters, All Other (17-3029)	\$27.38	\$34.64	\$43.62
Surveying and Mapping Technicians (17-3031)	\$25.10	\$31.18	\$39.21

Top Companies Posting






Company	Total/Unique (Sep 2016 - Aug 2018)	Posting Intensity	Median Posting Duration
Sanmina Corporation	6,546 / 350	19 : 1 	2 days
Tesla Motors, Inc.	1,102 / 283	4 : 1 	90 days
Kelly Services, Inc.	998 / 169	6 : 1 	34 days
Aerotek, Inc.	1,042 / 168	6 : 1 	16 days
Apple Inc.	490 / 117	4 : 1 	60 days
Modis, Inc.	364 / 94	4 : 1 	34 days
At-Tech	228 / 92	2 : 1 	48 days
RANDSTAD HOLDING nv	602 / 89	7 : 1 	33 days
Synopsys, Inc.	212 / 84	3 : 1 	37 days
Atr International, Inc.	242 / 83	3 : 1 	39 days
Lawrence Livermore National Laboratory	238 / 81	3 : 1 	92 days
Superior Group	377 / 72	5 : 1 	39 days
Pacific Gas and Electric Company	315 / 68	5 : 1 	30 days
Applied Materials, Inc.	511 / 65	8 : 1 	53 days
AppleOne	146 / 53	3 : 1 	30 days
Coherent, Inc.	260 / 51	5 : 1 	61 days
Lam Research Corporation	221 / 50	4 : 1 	35 days
Nana Regional Corporation, Inc.,	194 / 46	4 : 1 	54 days
CDI Corporation	207 / 45	5 : 1 	33 days
Western Digital Corporation	143 / 45	3 : 1 	19 days
Jabil Circuit, Inc.	206 / 44	5 : 1 	61 days
Thermo Fisher Scientific Inc	419 / 43	10 : 1 	57 days
Varian Medical Systems, Inc.	234 / 43	5 : 1 	76 days
Apex Systems, Inc.	649 / 42	15 : 1 	46 days

Adecco Group	127 / 38	3 : 1		39 days
Advantage Resourcing	512 / 38	13 : 1		33 days
Intuitive Surgical, Inc.	98 / 34	3 : 1		38 days
Fieldco	78 / 33	2 : 1		64 days
Amazon.com, Inc.	123 / 32	4 : 1		43 days
Apex Life Science Advisors LLC	140 / 32	4 : 1		36 days
Skyworks Solutions, Inc.	369 / 32	12 : 1		49 days
Formfactor, Inc.	193 / 30	6 : 1		38 days
Outsource, Inc.	75 / 30	3 : 1		28 days
Tesla, Inc.	117 / 30	4 : 1		47 days
Boston Scientific Corporation	189 / 28	7 : 1		17 days
COBHAM PLC	155 / 27	6 : 1		66 days
Advanced Employment Services, Inc	977 / 25	39 : 1		50 days
Arex Life Sciences, Inc.	128 / 25	5 : 1		59 days
Cybercoders, Inc.	96 / 25	4 : 1		43 days
Balance Staffing Inc	36 / 24	2 : 1		32 days
Experis Us, Inc.	61 / 24	3 : 1		16 days
40 Hrs, Inc	38 / 22	2 : 1		11 days
Danaher Corporation	126 / 22	6 : 1		46 days
Lockheed Martin Corporation	109 / 22	5 : 1		48 days
RANDSTAD UK HOLDING LTD	136 / 22	6 : 1		33 days
Abbott Laboratories	101 / 21	5 : 1		34 days
Federal Aviation Administration	77 / 21	4 : 1		24 days
Nextgen Information Services, Inc.	936 / 21	45 : 1		24 days
Abaxis, Inc.	26 / 20	1 : 1		14 days
Akorbi	33 / 20	2 : 1		16 days

Top Posted Job Titles

Job Title	Total/Unique (Sep 2016 - Aug 2018)	Posting Intensity	Median Posting Duration
Engineering Technician	7,095 / 1,465	5 : 1 	38 days
Manufacturing Technician (Architecture and Engineering)	6,584 / 709	9 : 1 	34 days
Engineering Intern	1,386 / 441	3 : 1 	40 days
Quality Assurance Engineer (Architecture and Engineering)	2,050 / 423	5 : 1 	35 days
Electronics Technician	1,304 / 364	4 : 1 	33 days
Production Technician	1,749 / 326	5 : 1 	41 days
Systems Technician (Architecture and Engineering)	3,932 / 271	15 : 1 	2 days
Process Technician (Architecture and Engineering)	1,736 / 253	7 : 1 	34 days
Electrical Technician	793 / 203	4 : 1 	39 days
Electro-Mechanical Technician	760 / 198	4 : 1 	33 days
Quality Technician	1,058 / 156	7 : 1 	31 days
Calibration Technician	669 / 148	5 : 1 	33 days
Laboratory Technician (Architecture and Engineering)	732 / 142	5 : 1 	53 days
Mechanical Technician	515 / 132	4 : 1 	37 days
Quality Assurance (QA) Technician (Architecture and Engineering)	453 / 121	4 : 1 	33 days
Instrumentation Technician (Architecture and Engineering)	420 / 114	4 : 1 	54 days
Assembly Technician (Production)	518 / 106	5 : 1 	38 days
Laboratory Technician (Life, Physical, and Social Science)	329 / 91	4 : 1 	31 days
Design Engineer (Architecture and Engineering)	243 / 82	3 : 1 	30 days
Research and Development (R&D) Engineer	421 / 82	5 : 1 	41 days
Field Technician (Architecture and Engineering)	453 / 80	6 : 1 	43 days

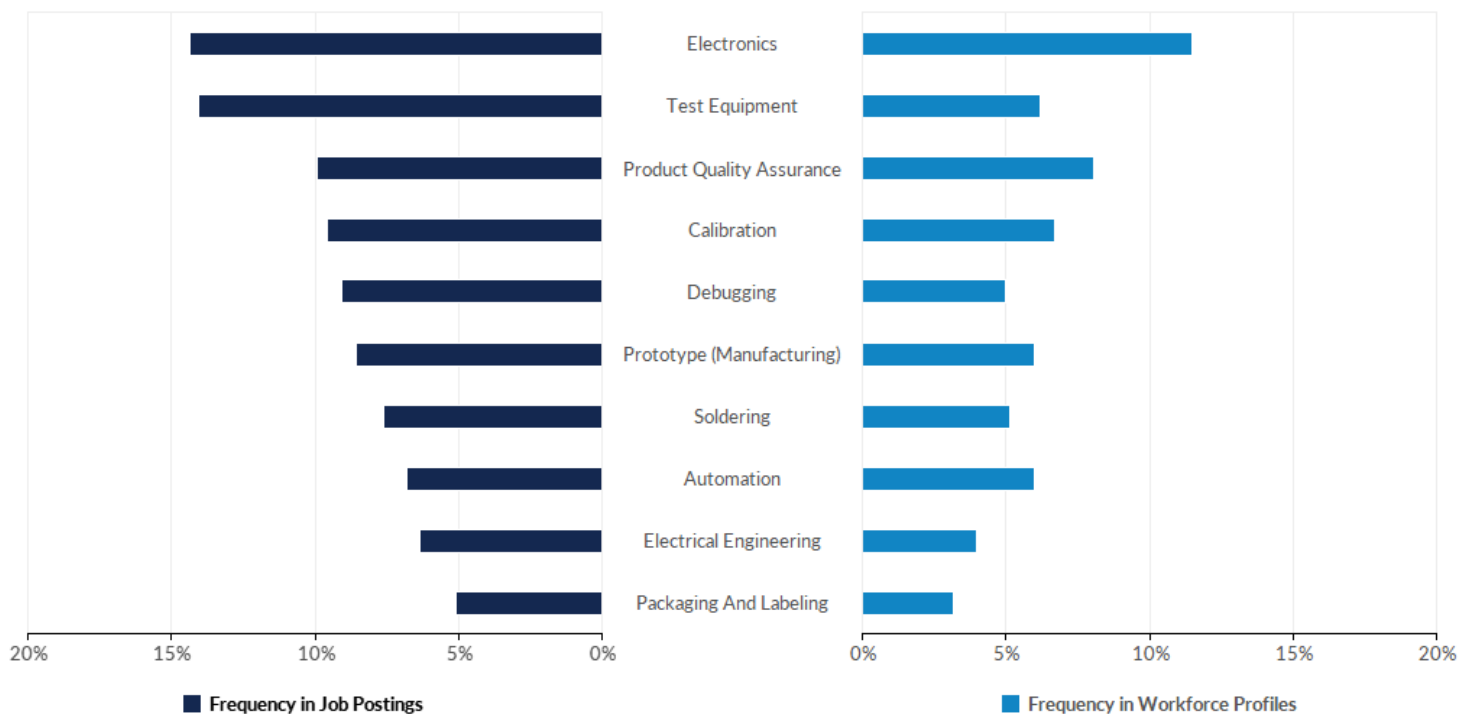
CAD Technician	177 / 72	2 : 1		52 days
Cable Technician (Installation, Maintenance, and Repair)	177 / 71	2 : 1		40 days
Mechanical Engineer	169 / 65	3 : 1		48 days
NDT Technician	157 / 60	3 : 1		33 days
Manufacturing Technician (Production)	396 / 59	7 : 1		49 days
Radio Frequency Technician	140 / 56	3 : 1		39 days
Lead Technician	691 / 49	14 : 1		50 days
Engineering Technologist	124 / 42	3 : 1		62 days
Environmental Services Technician (Architecture and Engineering)	268 / 42	6 : 1		29 days
Digital Technician	185 / 41	5 : 1		23 days
Engineering Assistant	117 / 40	3 : 1		30 days
Manufacturing Engineer	298 / 40	7 : 1		31 days
Automation Technician (Architecture and Engineering)	112 / 36	3 : 1		42 days
Maintenance Technician (Architecture and Engineering)	103 / 34	3 : 1		50 days
Software Engineer	135 / 34	4 : 1		30 days
Maintenance Technician (Installation, Maintenance, and Repair)	143 / 33	4 : 1		31 days
Metrology Engineer	87 / 31	3 : 1		38 days
Packaging Technician	84 / 31	3 : 1		31 days
Operations Technician (Installation, Maintenance, and Repair)	128 / 30	4 : 1		39 days
Behavior Specialist	72 / 29	2 : 1		25 days
Engineering Co-op	149 / 29	5 : 1		50 days
Maintenance Mechanic	97 / 29	3 : 1		30 days
Process Engineer	337 / 29	12 : 1		13 days

Systems Technician (Installation, Maintenance, and Repair)	80 / 29	3 : 1		29 days
Radio Frequency Engineer	145 / 28	5 : 1		58 days
Equipment Technician (Installation, Maintenance, and Repair)	104 / 27	4 : 1		36 days
Systems Engineer (Architecture and Engineering)	75 / 27	3 : 1		37 days
Equipment Engineer	247 / 26	10 : 1		31 days
Process Technician (Production)	65 / 26	3 : 1		23 days

The following provides insight into the supply and demand of relevant skills by comparing the frequency of skills present in job postings against skills present in today's workforce. Along with Emsi's job posting analytics, this comparison leverages Emsi's dataset of more than 100M online resumés and profiles. All resumés and profiles used in these comparisons have been updated within the last three years.

**The skills associated with workforce profiles represent workers of all education and experience levels.*

Top Hard Skills



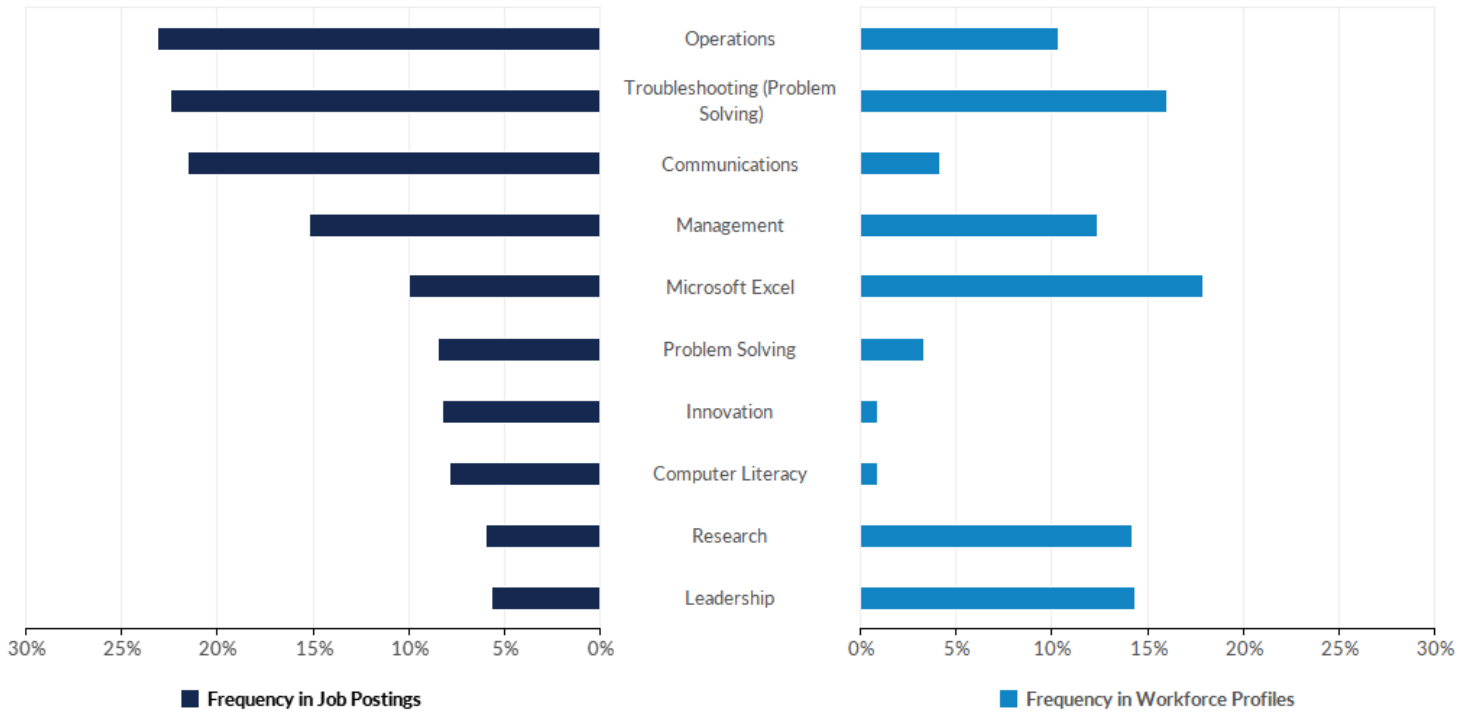
Top Hard Skills

Skill	Frequency in Postings	Postings with Skill / Total Postings (Sep 2016 - Aug 2018)	Frequency in Profiles	Profiles with Skill / Total Profiles (2016 - 2018)
Electronics	14%	1,282 / 8,923	11%	1,075 / 9,378
Test Equipment	14%	1,256 / 8,923	6%	580 / 9,378
Product Quality Assurance	10%	886 / 8,923	8%	754 / 9,378
Calibration	10%	856 / 8,923	7%	627 / 9,378
Debugging	9%	808 / 8,923	5%	467 / 9,378
Prototype (Manufacturing)	9%	764 / 8,923	6%	563 / 9,378
Soldering	8%	678 / 8,923	5%	484 / 9,378

Automation	7%	607 / 8,923	6%	560 / 9,378
Electrical Engineering	6%	566 / 8,923	4%	371 / 9,378
Packaging And Labeling	5%	454 / 8,923	3%	296 / 9,378
Instrumentation	5%	450 / 8,923	3%	311 / 9,378
Computer-Aided Design	5%	443 / 8,923	4%	401 / 9,378
Electrical Wirings	5%	437 / 8,923	3%	251 / 9,378
Mechanical Engineering	5%	425 / 8,923	5%	435 / 9,378
Good Manufacturing Practices	4%	385 / 8,923	5%	442 / 9,378
Optics	4%	375 / 8,923	4%	343 / 9,378
New Product Development	4%	371 / 8,923	7%	610 / 9,378
Quality Management	4%	370 / 8,923	6%	562 / 9,378
Blueprinting	4%	351 / 8,923	1%	139 / 9,378
Pharmaceuticals	4%	342 / 8,923	2%	223 / 9,378
Tooling	4%	337 / 8,923	1%	130 / 9,378
Manufacturing Operations	4%	334 / 8,923	1%	91 / 9,378
Printed Circuit Board	4%	329 / 8,923	3%	293 / 9,378
Software Quality Assurance (SQA)	4%	325 / 8,923	4%	332 / 9,378
Electronic Circuits	4%	314 / 8,923	1%	101 / 9,378
Control Systems	3%	303 / 8,923	1%	119 / 9,378
Computer Control Systems	3%	299 / 8,923	2%	143 / 9,378
Microsoft Access	3%	287 / 8,923	3%	280 / 9,378
Machining	3%	273 / 8,923	2%	227 / 9,378
Disassembler	3%	268 / 8,923	0%	26 / 9,378
AutoCAD	3%	266 / 8,923	7%	667 / 9,378
Fabrication	3%	260 / 8,923	2%	159 / 9,378
Prototyping	3%	253 / 8,923	2%	171 / 9,378

Cleanrooms	3%	251 / 8,923	3%	288 / 9,378
Signal Generators	3%	242 / 8,923	1%	112 / 9,378
Personal Protective Equipment	2%	216 / 8,923	0%	24 / 9,378
Voltage	2%	214 / 8,923	1%	77 / 9,378
Auditing	2%	213 / 8,923	2%	175 / 9,378
Corrective And Preventive Actions	2%	210 / 8,923	1%	106 / 9,378
Chemistry	2%	209 / 8,923	1%	140 / 9,378
Biotechnology	2%	208 / 8,923	3%	324 / 9,378
Programmable Logic Controllers	2%	208 / 8,923	2%	181 / 9,378
Preventive Maintenance	2%	205 / 8,923	3%	261 / 9,378
Test Engineering	2%	203 / 8,923	3%	278 / 9,378
Radio Frequency	2%	186 / 8,923	4%	371 / 9,378
Surveying	2%	186 / 8,923	1%	125 / 9,378
Biology	2%	174 / 8,923	1%	84 / 9,378
Telecommunications	2%	171 / 8,923	3%	266 / 9,378
Civil Engineering	2%	163 / 8,923	2%	201 / 9,378
Manufacturing Processes	2%	159 / 8,923	2%	192 / 9,378

Top Common Skills



Top Common Skills

Skill	Frequency in Postings	Postings with Skill / Total Postings (Sep 2016 - Aug 2018)	Frequency in Profiles	Profiles with Skill / Total Profiles (2016 - 2018)
Operations	23%	2,066 / 8,923	10%	970 / 9,378
Troubleshooting (Problem Solving)	22%	2,004 / 8,923	16%	1,505 / 9,378
Communications	22%	1,919 / 8,923	4%	393 / 9,378
Management	15%	1,355 / 8,923	12%	1,162 / 9,378
Microsoft Excel	10%	890 / 8,923	18%	1,680 / 9,378
Problem Solving	8%	752 / 8,923	3%	309 / 9,378
Innovation	8%	733 / 8,923	1%	85 / 9,378
Computer Literacy	8%	701 / 8,923	1%	84 / 9,378
Research	6%	531 / 8,923	14%	1,334 / 9,378
Leadership	6%	506 / 8,923	14%	1,350 / 9,378
Written Communication	5%	469 / 8,923	0%	33 / 9,378
Verbal Communication Skills	4%	400 / 8,923	0%	15 / 9,378

Microsoft Outlook	4%	398 / 8,923	3%	324 / 9,378
Microsoft Office	4%	376 / 8,923	19%	1,737 / 9,378
Interpersonal Skills	4%	375 / 8,923	1%	67 / 9,378
Data Analysis	4%	339 / 8,923	5%	482 / 9,378
Infrastructure	3%	298 / 8,923	1%	101 / 9,378
Mathematics	3%	294 / 8,923	2%	166 / 9,378
Investigation	3%	285 / 8,923	1%	48 / 9,378
Customer Service	3%	280 / 8,923	13%	1,196 / 9,378
Quality Assurance	3%	278 / 8,923	7%	684 / 9,378
Presentations	3%	274 / 8,923	2%	226 / 9,378
Microsoft PowerPoint	3%	273 / 8,923	12%	1,098 / 9,378
Driving	3%	272 / 8,923	1%	73 / 9,378
Construction	3%	244 / 8,923	4%	358 / 9,378
Reliability	3%	234 / 8,923	2%	186 / 9,378
Microsoft Windows	3%	231 / 8,923	5%	492 / 9,378
Coordinating	2%	218 / 8,923	1%	139 / 9,378
Office Suite	2%	214 / 8,923	0%	15 / 9,378
Time Management	2%	204 / 8,923	3%	278 / 9,378
Sales	2%	195 / 8,923	8%	719 / 9,378
Information Technology	2%	190 / 8,923	2%	193 / 9,378
Creativity	2%	184 / 8,923	0%	0 / 9,378
Microsoft Word	2%	174 / 8,923	13%	1,217 / 9,378
Physics	2%	165 / 8,923	2%	168 / 9,378
Computer Sciences	2%	144 / 8,923	1%	79 / 9,378
Integration	1%	133 / 8,923	3%	248 / 9,378
Writing	1%	133 / 8,923	2%	226 / 9,378

Sanitation	1%	122 / 8,923	0%	28 / 9,378
Prioritization	1%	115 / 8,923	0%	36 / 9,378
Spreadsheets	1%	106 / 8,923	0%	29 / 9,378
Decision Making	1%	103 / 8,923	0%	38 / 9,378
Data Entry	1%	98 / 8,923	2%	212 / 9,378
Literacy	1%	95 / 8,923	0%	8 / 9,378
Personal Computers	1%	82 / 8,923	1%	80 / 9,378
English Language	1%	80 / 8,923	3%	295 / 9,378
Mentorship	1%	80 / 8,923	1%	68 / 9,378
Word Processor	1%	74 / 8,923	0%	33 / 9,378
Spanish Language	1%	68 / 8,923	1%	139 / 9,378
Adaptabilities	1%	66 / 8,923	0%	14 / 9,378

Top Qualifications

Qualification	Postings with Qualification
ASNT Non-Destructive Tester	35
Certified Welding Inspector	21
(American Society For Quality) ASQ Certified	19
Professional Engineer	17
Commercial Driver's License (CDL)	12
Certified Quality Technician	11
Certified Medical Investigator	7
Institute Of Inspection Cleaning And Restoration Certification	7
Transportation Worker Identification Credential (TWIC) Card	6
Medical Technologist	5
Advanced Life Support	3
Certified IRB Manager	3
Certified Quality Improvement Associate (CQIA)	3
Apple Certified Macintosh Technician	2
Certified Information Security Manager	2
Certified Information Systems Security Professional	2
Industry Radiography Radiation Safety Personnel	2
Operator Certification	2
Product Certification	2
ACCP Certified	1
Accredited Tax Advisor	1
Certified Calibration Technician	1
Certified Facility Manager	1
Certified Forensic Interviewer	1
Certified Quality Engineer	1
Certified Quality Process Analyst	1

Certified Rehabilitation Counselor	1
Certified Safety Professional	1
Certified Welder	1
Cisco Certified Technician	1
CompTIA Security+	1
Licensed Practical Nurse	1
Licensed Professional Engineer	1
Radiation Oncologist	1
Senior Certified Welding Inspector	1
Six Sigma Green Belt Certification	1

Appendix A - Data Sources and Calculations

Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Emsi Job Postings

Job postings are collected from various sources and processed/enriched to provide information such as standardized company name, occupation, skills, and geography.

Occupation Data

Emsi occupation employment data are based on final Emsi industry data and final Emsi staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Emsi earnings by industry.

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department