

# Biology Occupation Overview

Emsi Q2 2016 Data Set

July 2016

College of San Mateo



3401 CSM Drive  
San Mateo, California 94402  
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# Parameters

## Occupations

14 items selected. See Appendix A for details.

## 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

## Timeframe

2014 - 2021

## Datarun

2016.2 - QCEW Employees

## Occupation Summary for BIO CTE

<p><b>22,477</b> Jobs (2016) 51% <b>above</b> National average</p>	<p><b>+15.0%</b> % Change (2014-2021) Nation: <b>+10.3%</b></p>	<p><b>\$35.93/hr</b> Median Hourly Earnings Nation: \$24.81/hr</p>
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## Growth

21,285

2014 Jobs

24,487

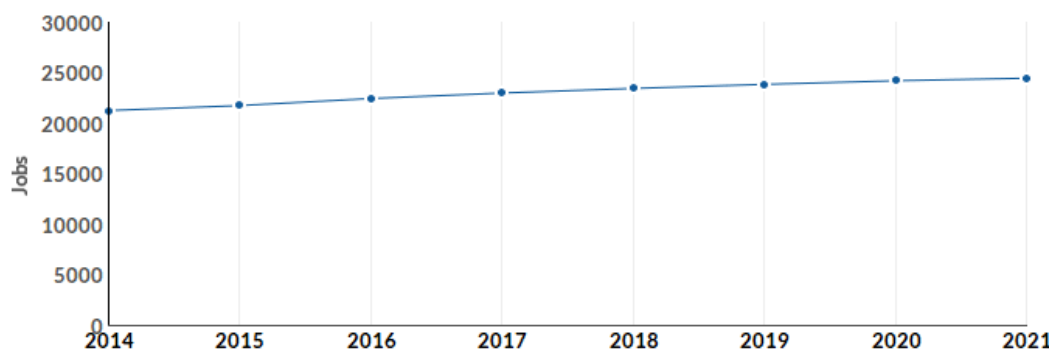
2021 Jobs

3,202

Change (2014-2021)

15.0%

% Change (2014-2021)



Occupation	2014 Jobs	2021 Jobs	Change	% Change
Food Scientists and Technologists (19-1012)	245	296	51	21%
Soil and Plant Scientists (19-1013)	578	684	106	18%
Biochemists and Biophysicists (19-1021)	2,203	2,665	462	21%
Microbiologists (19-1022)	1,781	2,009	228	13%
Zoologists and Wildlife Biologists (19-1023)	627	716	89	14%
Biological Scientists, All Other (19-1029)	1,982	2,157	175	9%
Environmental Scientists and Specialists, Including Health (19-2041)	3,478	3,902	424	12%
Agricultural and Food Science Technicians (19-4011)	616	699	83	13%
Biological Technicians (19-4021)	3,541	4,130	589	17%
Chemical Technicians (19-4031)	1,475	1,659	184	12%
Environmental Science and Protection Technicians, Including Health (19-4091)	847	979	132	16%
Forensic Science Technicians (19-4092)	405	493	88	22%
Forest and Conservation Technicians (19-4093)	511	513	2	0%
Medical and Clinical Laboratory Technicians (29-2012)	2,996	3,584	588	20%

## Percentile Earnings

**\$28.25/hr**

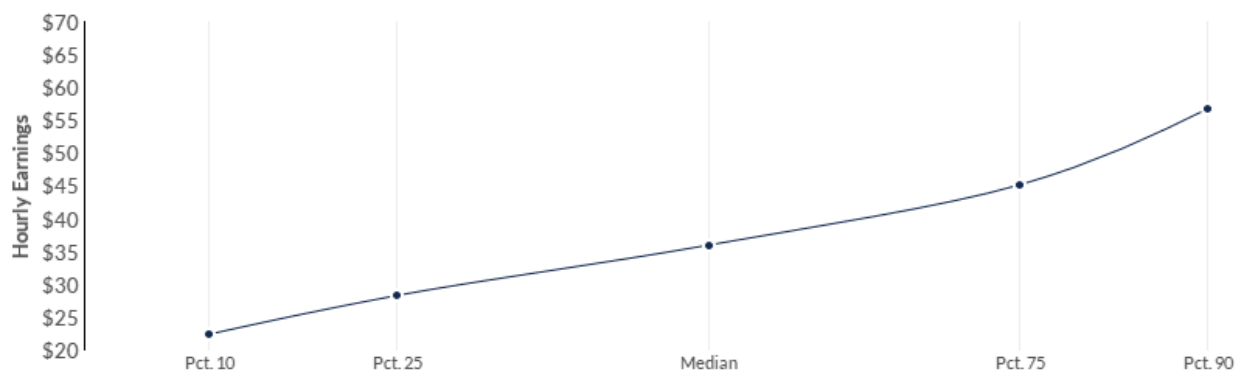
25th Percentile Earnings

**\$35.93/hr**

Median Earnings

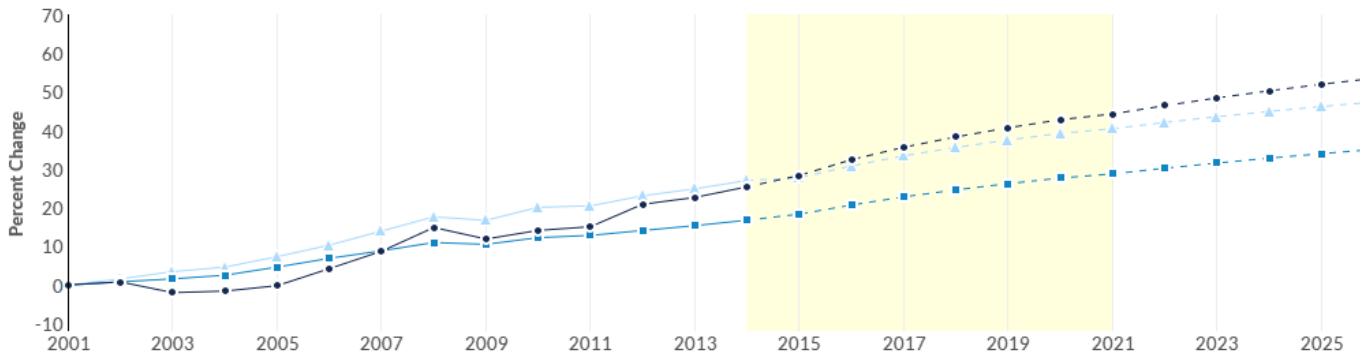
**\$45.15/hr**

75th Percentile Earnings



Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings
Food Scientists and Technologists (19-1012)	\$25.67	\$34.00	\$44.50
Soil and Plant Scientists (19-1013)	\$28.13	\$35.42	\$43.30
Biochemists and Biophysicists (19-1021)	\$40.67	\$52.46	\$66.89
Microbiologists (19-1022)	\$40.43	\$49.37	\$59.19
Zoologists and Wildlife Biologists (19-1023)	\$27.57	\$36.09	\$50.52
Biological Scientists, All Other (19-1029)	\$35.71	\$43.01	\$52.13
Environmental Scientists and Specialists, Including Health (19-2041)	\$32.13	\$42.40	\$55.70
Agricultural and Food Science Technicians (19-4011)	\$15.10	\$18.14	\$23.93
Biological Technicians (19-4021)	\$22.71	\$30.50	\$38.30
Chemical Technicians (19-4031)	\$18.31	\$24.81	\$31.84
Environmental Science and Protection Technicians, Including Health (19-4091)	\$17.48	\$22.69	\$32.35
Forensic Science Technicians (19-4092)	\$32.60	\$40.04	\$45.85
Forest and Conservation Technicians (19-4093)	\$15.10	\$17.79	\$22.97
Medical and Clinical Laboratory Technicians (29-2012)	\$21.63	\$25.67	\$29.53

## Regional Trends



Region	2014 Jobs	2021 Jobs	Change	% Change
● Region	21,285	24,487	3,202	15.0%
■ Nation	630,407	695,250	64,843	10.3%
▲ California	95,027	105,053	10,026	10.6%

## Regional Breakdown



County	2021 Jobs
Alameda County, CA	6,324
Santa Clara County, CA	5,605
San Mateo County, CA	5,595
San Francisco County, CA	4,992
Contra Costa County, CA	1,971

## Job Postings Summary

1,459

Unique Postings (May 2016)  
4,072 Total Postings

3 : 1

Posting Intensity (May 2016)



There were 4,072 total job postings for 14 *Occupations* in May 2016, of which 1,459 were unique. These numbers give us a Posting Intensity of 3-to-1, meaning that for every 3 postings there is 1 unique job posting.

This is lower than the Posting Intensity for all other occupations and companies in the region (5-to-1), indicating that companies may not be trying as hard to hire this position.

## Occupation Gender Breakdown



Gender	2016 Jobs	2016 Percent
● Males	11,570	51.5%
● Females	10,907	48.5%

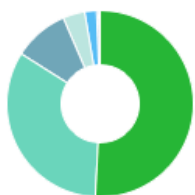


## Occupation Age Breakdown



Age	2016 Jobs	2016 Percent
14-18	92	0.4%
19-24	1,589	7.1%
25-34	6,216	27.7%
35-44	5,677	25.3%
45-54	4,953	22.0%
55-64	3,297	14.7%
65+	652	2.9%

## Occupation Race/Ethnicity Breakdown



Race/Ethnicity	2016 Jobs	2016 Percent
White	11,422	50.8%
Asian	7,454	33.2%
Hispanic or Latino	2,148	9.6%
Black or African American	851	3.8%
Two or More Races	461	2.1%
American Indian or Alaska Native	77	0.3%
Native Hawaiian or Other Pacific Islander	64	0.3%

## Occupational Programs

<b>54</b> Programs (2014)	<b>4,821</b> Completions (2014)	<b>1,183</b> Openings (2014)
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CIP Code	Program	Completions (2014)
26.0101	Biology/Biological Sciences, General	1,848
51.0000	Health Services/Allied Health/Health Sciences, General	664
26.0406	Cell/Cellular and Molecular Biology	556
03.0103	Environmental Studies	325
03.0104	Environmental Science	278

## Industries Employing BIO CTE

Industry	Occupation Group Jobs in Industry (2016)	% of Occupation Group in Industry (2016)	% of Total Jobs in Industry (2016)
Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)	5,522	24.6%	12.1%
Research and Development in Biotechnology	1,830	8.1%	13.2%
Pharmaceutical Preparation Manufacturing	1,515	6.7%	12.4%
Colleges, Universities, and Professional Schools (State Government)	1,425	6.3%	2.8%
Federal Government, Civilian, Excluding Postal Service	1,373	6.1%	4.9%

# Appendix A - Occupations

Code	Description
19-1012	Food Scientists and Technologists
19-1013	Soil and Plant Scientists
19-1021	Biochemists and Biophysicists
19-1022	Microbiologists
19-1023	Zoologists and Wildlife Biologists
19-1029	Biological Scientists, All Other
19-2041	Environmental Scientists and Specialists, Including Health
19-4011	Agricultural and Food Science Technicians
19-4021	Biological Technicians
19-4031	Chemical Technicians
19-4091	Environmental Science and Protection Technicians, Including Health
19-4092	Forensic Science Technicians
19-4093	Forest and Conservation Technicians
29-2012	Medical and Clinical Laboratory Technicians

# Appendix B - Data Sources and Calculations

## 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.

## 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.

## Completers Data

The completers 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.

## 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.

## State Data Sources

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