



# **Music Technology**

## **Program Report For Greater South Bay and Peninsula Region (Santa Clara and San Mateo Counties)**

September 2016

12345 El Monte Road  
Los Altos Hills, California 94022  
650.949.7777

## Recording Arts Technology/Technician

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CIP 2010: A program that prepares individuals to apply technical knowledge and skills to the production of sound recordings as finished products or as components of film/video, broadcast, live, or mixed media productions. Includes instruction in sound equipment operation and maintenance; music, dialogue, and sound effects recording; sound track editing; dubbing and mixing; sound engineering; tape, disk, and CD production; digital recording and transmission; amplification and modulation; and working with producers, editors, directors, artists, and production managers.

## Target Occupations‡

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Audio and Video Equipment Technicians (27-4011)

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Sound Engineering Technicians (27-4014)

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‡Based on EMSI crosswalk of the Classification of Instructional Programs (CIP) codes with Standard Occupational Classification (SOC) codes as published by the U.S. Department of Education.

In 2016, the number of Music Technology jobs in the target occupations in Santa Clara and San Mateo Counties totaled 1,191. The Bureau of Labor Statistics (BLS) expects the total number of positions to increase by 8% over the next three years.

## Occupation Summary for Music Technology

<b>1,191</b> <b>Jobs (2016)<sup>1</sup></b> 13% above National average <sup>2</sup>	<b>7.7%</b> <b>% Change (2016-2019)<sup>3</sup></b> Nation: 3.9%	<b>\$21.86/hr</b> <b>Median Hourly Earnings</b> Nation: \$21.07/hr
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<sup>1</sup>Based on total number of jobs for target occupations in Santa Clara and San Mateo Counties.

<sup>2</sup>Represents occupation density as compared to national average (national average=1).

<sup>3</sup>Based on turnover and new jobs.

Target occupations that are mapped to the Music Technology program are disaggregated to see which occupations are projected to see the highest number of annual openings (Audio and Video Equipment Technicians), highest percentage rate of growth over the next three year (Sound Engineering Technicians), and the highest median hourly earnings (Sound Engineering Technicians). While Sound Engineering Technicians are expected to experience job growth (8%), these occupations are more represented and concentrated in our region (Santa Clara and San Mateo Counties) compared to the national average.

## Target Occupations

Occupation	2016 Jobs	Annual Openings	Median Hourly Earnings	Growth (2016 - 2019)	Location Quotient (2016)
Audio and Video Equipment Technicians	965	43	\$20.23/hr	7.56%	1.14
Sound Engineering Technicians	226	11	\$28.93/hr	8.41%	1.12

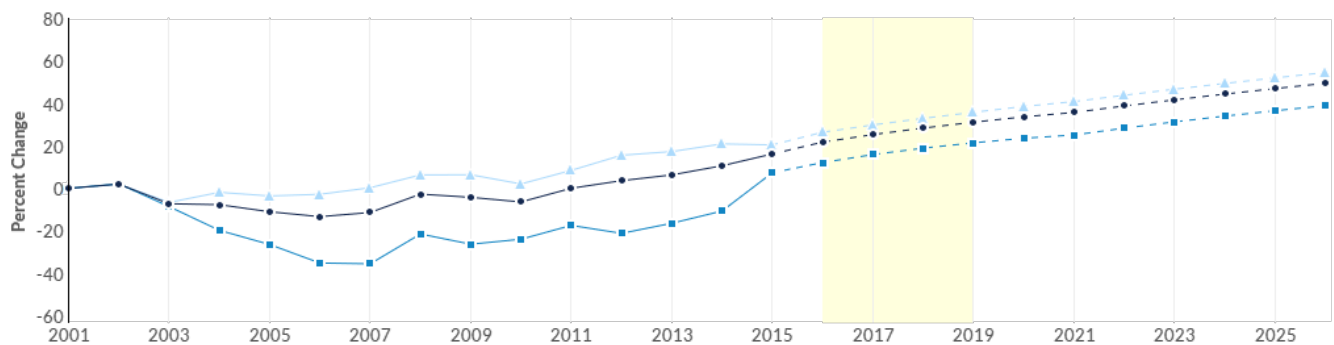
Growth in the Music Technology occupations show how each occupation is projected to increase in jobs over the next three years. A growth of about 8% is expected in the next three years for Music Technology.

## Growth for Music Technology

<b>1,191</b>	<b>1,283</b>	<b>92</b>	<b>7.7%</b>
2016 Jobs	2019 Jobs	Change (2016-2019)	% Change (2016-2019)

Occupation	2016 Jobs	2019 Jobs	Change	% Change
Audio and Video Equipment Technicians (27-4011)	965	1,038	73	8%
Sound Engineering Technicians (27-4014)	226	245	19	8%

## Regional Trends

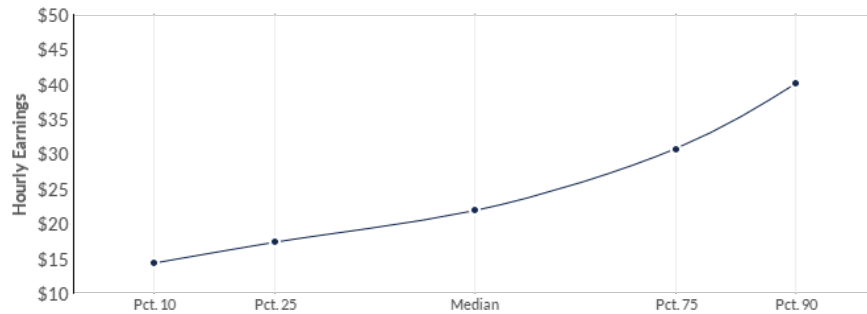


	Region	2016 Jobs	2019 Jobs	Change	% Change
●	Region	1,191	1,283	92	7.7%
●	San Mateo County, CA	357	387	30	8.4%
●	Santa Clara County, CA	834	896	62	7.4%

The percentile earnings table shows the range the Music Technology occupations earn in the region. While the median earnings are almost \$22/hour, wages can range from below \$17/hour to above \$30/hour. Each of the target occupations' range in wages is also displayed.

## Percentile Earnings for Music Technology

<b>\$17.31/hr</b>	<b>\$21.86/hr</b>	<b>\$30.73/hr</b>
<b>25th Percentile Earnings</b>	<b>Median Earnings</b>	<b>75th Percentile Earnings</b>



<b>Occupation</b>	<b>25th Percentile Earnings</b>	<b>Median Earnings</b>	<b>75th Percentile Earnings</b>
Audio and Video Equipment Technicians (27-4011)	\$16.26	\$20.23	\$28.16
Sound Engineering Technicians (27-4014)	\$21.84	\$28.93	\$41.82

## Program Completion Data

Program data reviews completion information about awards by institution and types of awards conferred in the region (Santa Clara and San Mateo Counties). Foothill College is one of the two regional institutions that is supporting and preparing for Music Technology occupations.


### Program Summary for Recording Arts Technology/Technician

<b>2</b>	<b>20</b>	<b>77</b>
<b>Regional Institutions</b>	<b>Regional Program Completions (2015)</b>	<b>Annual Openings (2015)</b>
had Completions in the last 13 years	Foothill College Completions: 20	

### Regional Completions by Institution

<b>Institution</b>	<b>Certificates (2015)</b>	<b>Degrees (2015)</b>	<b>Total Completions (2015)</b>
Foothill College	6	14	20
Cogswell College	0	0	0

### Regional Completions by Award Level

<b>Award Level</b>	<b>Completions (2015)</b>	<b>Percent</b>
Award of less than 1 academic year	6	30.0% 
Associates degree	14	70.0% 

## Target Occupations Demographics

The demographics among those employed in Music Technology occupations in Santa Clara and San Mateo Counties for 2016 show that a majority are males (90%) and almost a third are between the ages of 25-34 (30%) and a majority are White (63%).

### Occupation Gender Breakdown

Gender	2016 Jobs	2016 Percent	
Males	1,074	90.2%	<div></div>
Females	117	9.8%	<div></div>

### Occupation Age Breakdown

Age	2016 Jobs	2016 Percent	
14-18	13	1.1%	<div></div>
19-24	122	10.3%	<div></div>
25-34	356	29.9%	<div></div>
35-44	291	24.4%	<div></div>
45-54	244	20.4%	<div></div>
55-64	138	11.6%	<div></div>
65+	27	2.3%	<div></div>

### Occupation Race/Ethnicity Breakdown

Race/Ethnicity	2016 Jobs	2016 Percent	
White	755	63.4%	<div></div>
Hispanic or Latino	190	15.9%	<div></div>
Asian	143	12.0%	<div></div>
Black or African American	66	5.6%	<div></div>
Two or More Races	27	2.2%	<div></div>
Native Hawaiian or Other Pacific Islander	7	0.6%	<div></div>
American Indian or Alaska Native	4	0.3%	<div></div>

## Industries Employing Music Technology Occupations

A number of industries in Santa Clara and San Mateo Counties employ those trained in Music Technology and its related occupations. The following table represents a regional industry breakdown of the number of Music Technology positions employed, the percentage of Music Technology employed by industry and the Music Technology jobs represent within all jobs by each industry. While Colleges, Universities, and Professional Schools employed 12% of all regional Music Technology positions in 2016, Music Technology occupations composed a minority of jobs in that industry (0.4%).

## Industries Employing Music Technology Occupations

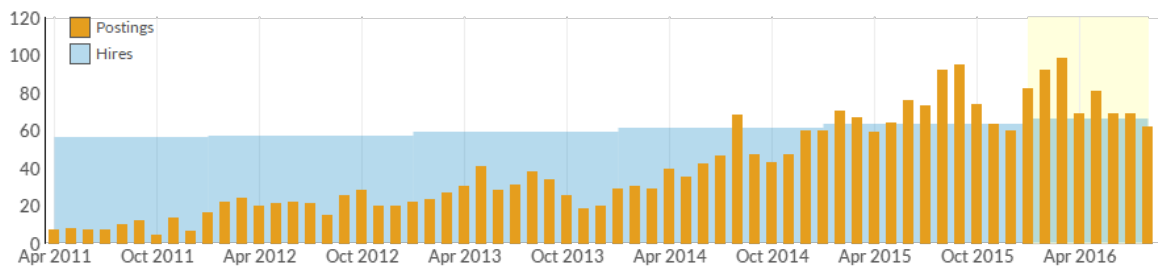
Industry	Occupation Group Jobs in Industry (2016)	% of Occupation Group in Industry (2016)	% of Total Jobs in Industry (2016)
Colleges, Universities, and Professional Schools	142	11.9%	0.4%
Motion Picture and Video Production	129	10.8%	5.9%
Internet Publishing and Broadcasting and Web Search Portals	76	6.4%	0.1%
Promoters of Performing Arts, Sports, and Similar Events with Facilities	55	4.6%	2.8%
Independent Artists, Writers, and Performers	50	4.2%	1.8%



In an average month, there were 78 unique (internet) job postings for Music Technology jobs, and 66 actually hired from January 2016 to August 2016. This means there was approximately 1 hire for every 1 unique (internet) job posting for occupations in Music Technology.

## Job Postings vs. Hires

<b>78</b>	<b>66</b>
<b>Avg. Monthly Postings (Jan 2016 - Aug 2016)</b>	<b>Avg. Monthly Hires (Jan 2016 - Aug 2016)</b>



Occupation	Avg Monthly Postings (Jan 2016 - Aug 2016)	Avg Monthly Hires (Jan 2016 - Aug 2016)
Audio and Video Equipment Technicians	75	56
Sound Engineering Technicians	3	10

The top five concentrated hard and soft skills employers list in Music Technology job posting descriptions are listed below. Postings with skill is the total amount of (internet) job postings that mention the skill listed below. These numbers may be higher than the average monthly postings from above, because this number includes duplicated (internet) job postings. Concentration scores gauge relevance of the skill by representing the frequency in which this skill is being mentioned in (internet) job postings for Music Technology compared to all other (internet) job postings.

## Concentrated Hard Skills

Skill	Concentration Score	Postings with Skill
Extended Display Identification Data	927.80	3
WaveLab	463.90	3
Classical Music	266.30	26
Studio Recording	236.32	9
Advanced Volatile Threat	214.11	3

## Concentrated Soft Skills

Skill	Concentration Score	Postings with Skill
Self-Sufficiency	0.99	4
Creative Thinking	0.65	13
Imagination	0.59	12
Creative Problem-Solving	0.34	13
Critical Thinking	0.22	30

# Appendix A - 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.

## CareerBuilder/Emsi Job Postings

Job postings are collected from various sources and processed/enriched by Careerbuilder to provide information such as standardized company name, occupation, skills, and geography. Emsi performs additional filtering and processing to improve compatibility with Emsi data.

## State Data Sources

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