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**Sound and Communication Apprenticeship Program Report**

**For Greater South Bay and Peninsula Region**

**(Santa Clara and San Mateo Counties)**

**November 2014**

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| **Communications Systems Installation and Repair Technology** |

CIP 2010: A program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair one- and two- way communications equipment and systems, including television cable systems and mobile or stationary communication devices. Includes instruction in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity, and electronics as they relate to the repair of communications systems.

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| **Target Occupations**‡ |
| Radio Operators (27-4013) |
| Communications Equipment Operators, All Other (43-2099) |
| Radio, Cellular, and Tower Equipment Installers and Repairs (49-2021) |
| Telecommunications Equipment Installers and Repairers, Except Line Installers (49-2022) |
| Electronic Home Entertainment Equipment Installers and Repairers (49-2097) |
| Telecommunications Line Installers and Repairers (49-9052) |
| Camera and Photographic Equipment Repairers (49-9061) |
| Electrical and Electronic Equipment Assemblers (51-2022) |

‡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 2014, the number of sound and communication (communications systems installation and repair technology) jobs in the target occupations in Santa Clara and San Mateo Counties totaled 10,800. The Bureau of Labor Statistics (BLS) expects the total number of positions to decrease by 6.9% over the next three years. Regional openings in 2014, which included created jobs and turnover, totaled 154. There were no regional completions for communications systems installation and repair technology programs. These other programs are linked to multiple occupations and not all those who complete will enter the target occupations indicated in this report.

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| **Target Occupation Performance** |
| **10,800\*** | **-6.9%\*** | **$21.08/hr** |
| **Jobs (2014)** | **Growth (2014-2017)** | **Median Earnings** |
| National Location Quotient: 1.84 | National: -2.1% | National: $21.12/hr |

\*Based on total number of jobs for target occupations Santa Clara and San Mateo Counties.

†Represents occupation density as compared to national average (national average=1).

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| Regional Openings (2014) \*\* | 154 |  |
| Regional Program Completions (2013) | 0 |  |
| All Regional Completions for Target Occupations†† (2013) | 0 |  |

\*\*Openings include created jobs and turnover.

††Includes all regional programs applicable to target occupations.

**Sound and Communication Occupations Performance**

| **Target Occupations** | **Regional Openings (2014)** | **Median Hourly Earnings** | **Growth (2014-2017)** |
| --- | --- | --- | --- |
| Communications Equipment Operators, All Other (43-2099) | 0 | $23.00 | 0.0% |
| Electronic Home Entertainment Equipment Installers and Repairers (49-2097) | 7 | $17.00 | -7.6% |
| Telecommunications Line Installers and Repairers (49-9052) | 30 | $31.27 | -24.6% |
| Radio, Cellular, and Tower Equipment Installers and Repairs (49-2021) | 4 | $23.95 | 7.4% |
| Radio Operators (27-4013) | 0 | $23.86 | -6.7% |
| Telecommunications Equipment Installers and Repairers, Except Line Installers (49-2022) | 26 | $31.20 | -20.1% |
| Camera and Photographic Equipment Repairers (49-9061) | 1 | $23.24 | 0.4% |
| Electrical and Electronic Equipment Assemblers (51-2022) | 85 | $16.06 | 0.2% |

| **Program** | **2009** | **2010** | **2011** | **2012** | **2013** |
| --- | --- | --- | --- | --- | --- |
| Industrial Electronics Technology/Technician (47.0105) | 1 | 0 | 0 | 0 | 0 |
| Communications Systems Installation and Repair Technology (47.0103) | 1 | 0 | 0 | 0 | 0 |

**Regional Breakdown for Sound and Communication Occupations**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **County Name** | **2014 Jobs** | **2017 Jobs** | **2014 Annual Openings** | **Median Hourly Earnings** | **2014 National Location Quotient** |
| Santa Clara | 9,253 | 8,700 | 132 | $21.06 | 2.17 |
| San Mateo | 1,547 | 1,353 | 22 | $21.19 | 0.96 |
| Total | 10,800 | 10,053 | 154 | $21.08 |  |

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| **Related Regional Programs Allowing Entry to Sound and Communication** |
| **2** | **0** |
| **Programs (2013)** | **Completions (2013)** |

 **Target Occupations Demographics**

The demographics among those employed in sound and communication occupations in Santa Clara and San Mateo Counties for 2014 show that almost three-fifths are men (59%) and nearly half are between the ages 25-44 (48%).

 **Gender Demographics (Regional)**

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| --- | --- | --- |
| Gender |   |   |
| Male | 59% |  |
| Female | 41% |  |

**Age Demographics (Regional)**

|  |  |  |
| --- | --- | --- |
| Age |   |   |
| 14-18 | 1% |  |
| 19-24 | 5% |  |
| 25-44 | 48% |  |
| 45-64 | 43% |  |
| 65+ | 3% |  |

 **Industries Employing Sound and Communication Occupations**

A number of industries in Santa Clara and San Mateo Counties employ those trained in sound and communication and its related occupations. The following table represents a regional industry breakdown of the number of sound and communication positions employed, the percentage of sound and communication jobs employed by industry and the percentage sound and communication jobs represent within all jobs by each industry. While semiconductor and related device manufacturing employed 19.6% of all regional sound and communication positions in 2014, sound and communication and its related occupations represent 6.9% of the total jobs in that industry.

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| **Inverse Staffing Patterns (Regional)** |
| **Industry** | **Occupation Group Jobs in Industry (2014)** | **% of Occupation Group in Industry (2014)** | **% of Total Jobs in Industry (2014)** |
| Semiconductor and Related Device Manufacturing (334413) | 2,113 | 19.6% | 6.9% |
| Electronic Computer Manufacturing (334111) | 1,580 | 14.6% | 3.7% |
| Wired Telecommunications Carriers (517110) | 1,514 | 14.0% | 35.3% |
| Electrical Contractors and Other Wiring Installation Contractors (238210) | 748 | 6.9% | 8.7% |
| Other Electronic Component Manufacturing (334419) | 530 | 4.9% | 7.7% |

**Compatible Occupations for Sound and Communications**

Individuals completing a sound and communication program share many skills and abilities with other occupations. The Occupational Information Network (O\*Net) identifies compatible occupations based on an analysis of overlapping knowledge, skills and ability. Additional education required for transition can range from short on-site training to advanced post-secondary degrees. The following table shows how much education might be needed to be employed in these compatible occupations.

**Top Ten Compatible Occupations for Sound and Communication: Associate's or Less**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rank | Occupation | Median Hourly Earnings | 2014 Jobs | 2014-2017 Change | 2014-2017 Estimated Annual Openings |
| 1 | Computer, Automated Teller, and Office Machine Repairers | $19.53 | 2,394 | 14 | 46 |
| 2 | Security and Fire Alarm Systems Installers | $28.81 | 795 | 42 | 26 |
| 3 | Telecommunications Equipment Installers and Repairers, Except Line Installers | $31.20 | 2,037 |  (410) | 18 |
| 4 | Electronic Equipment Installers and Repairers, Motor Vehicles | $16.15 | 57 |  (7) | 0 |
| 5 | Home Appliance Repairers | $18.67 | 161 |  (9) | 5 |
| 6 | Telecommunications Line Installers and Repairers | $31.27 | 1,379 |  (339) | 21 |
| 7 | Medical Equipment Repairers | $25.75 | 669 | 85 | 36 |
| 8 | Avionics Technicians | $32.03 | 215 | 10 | 6 |
| 9 | Broadcast Technicians | $19.76 | 187 |  (6) | 3 |
| 10 | Outdoor Power Equipment and Other Small Engine Mechanics | $19.21 | 98 |  (4) | 2 |
| **Data Sources and Calculations** |

**State Data Sources**

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

**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.

**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.

**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.

**Staffing Patterns Data**

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

**Industry Data**

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.